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American Tobacco Types, Uses, and Markets

CHARLES E. GAGE
Chief, Tobacco Branch
Agricultural Marketing Administration

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UNITED STATES DEPARTMENT OF AGRICULTURE

American Tobacco Types, Uses, and Markets

By CHARLES E. GAGE, *Chief, Tobacco Branch, Agricultural Marketing Administration*[1]

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INTRODUCTION

Facts regarding the introduction of tobacco to the white race by the Indians, the attention given it in the literature of history, poetry, and romance, and its pervasive influence in the social and economic affairs of mankind have made this crop unique among the products of the soil. The rapidity of its expansion over the globe was phenomenal. By 1531, less than 40 years after the discovery of America, Spaniards were cultivating the crop in Santo Domingo. By 1560 it was being grown in Europe as a garden plant; by about 1580 it was being grown commercially in Cuba and Venezuela and in Brazil by about 1600. By 1600 or 1605 mariners and traders had introduced tobacco into China, Japan, South Africa, and many other distant lands.

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Tobacco from Spanish settlements had come into use in Europe and the British Isles at least 20 years before the colony of Jamestown was founded. Its introduction to society in those early days aroused much excitement and enthusiastic acclaim, and extravagant medicinal properties were ascribed to the weed. Teachers instructed novitiates in the most elegant mode of smoking. Enthusiasm for this new fad, however, was accompanied by opposition. The Counterblaste to Tobacco by James I is a masterpiece of picturesque language employed to condemn the tobacco habit.

Tobacco probably saved the Jamestown colony from extinction, for the colony was founded in the expectation of achieving financial success in the production of silk, glass, gold, iron, and other articles, most of which proved illusory. According to Robert (*23, p. 4*) [2]—

> The discovery [that tobacco could be successfully grown and profitably sold, the most momentous economic fact in the history of seventeenth-century Virginia, solved the Colonial problem of finding a satisfactory product to be sent to the Mother Country in exchange for those essentials not available in the new land.

In addition to its importance as an article of commerce between the colony and the mother country, tobacco became an article of trade between the colonists and the Indians, who early found that the varieties introduced by the white man were superior to their own.

From the beginning made by John Rolfe in about 1608 the production of tobacco became the ruling passion at Jamestown, and the history of the struggles with recurring periods of surplus, low prices, and attempted restriction of production, and the slow evolution of marketing methods are among the important chapters in American agricultural history.

Contrary to popular opinion the tobacco in common use today is not that which the settlers found growing in the Indian villages along the James, Pamunkey, Rappahannock, and other rivers of Tidewater Virginia. Most of the tobacco cultivated by the North American Indians belonged to the species *Nicotiana rustica* L. (see p. 60), believed to have originated in Mexico, although it appears that some other native species have been in use in portions of North America. Harrington (*12*) on the authority of Prof. W. A. Setchell, University of California, lists three species, one of them represented by three varieties, known to have been used by California Indians, and two other species used by Indians in the north and northwest. *N. rustica*, the species used on the Atlantic Coast, is not included in the list. Several species of the genus *Nicotiana* are native to North America. Although *rustica* is produced in certain foreign countries, the tobacco of commerce in the United States and most of the other countries of the world belongs to the species *N. tabacum* L., which is believed to have originated in Brazil. It was common in Central and South America and apparently in Yucatan. Seed of both species seems to have been introduced into Europe by the early Spanish explorers. (See Agricultural Yearbook, 1936, for a discussion of origins and early distribution of species (*26, p. 806*).)

Tobacco was already being widely cultivated in the Spanish colonies when Jamestown was settled, and had been introduced into many old world countries. The English colonists learned of the milder and more aromatic varieties of *N. tabacum* produced in tropical countries and in time adopted them in preference to the stronger, less agreeable *N. rustica.*

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[2] Italic numbers in parentheses refer to Literature Cited, p. 128.

Production of tobacco is highly localized. The type of tobacco known as Virginia sun-cured, for example, is produced in a small group of counties in central Virginia. The characteristics that distinguish this type result from the combination of soil and climatic conditions, method of curing, and variety of seed found only in that section. These characteristics are so distinctive as to set this type apart from all other types of tobacco. The same is true in greater or less degree of all the 26 types recognized by the official classification of American-grown tobacco (*27*).

In addition to the influences of variety, soil, weather, and curing methods in localizing tobacco culture and in differentiating the types, the influence of established demand is important. Over a long period of years the tastes of tobacco consumers have become accustomed to certain qualities. The trade that has developed by catering to these tastes looks to certain well-defined areas for continued supplies of the grades and qualities of leaf upon which depends the continued popularity of the manufactured product. In consequence, markets have been established in those centers of production where each year buyers assemble for the purchase of certain specific kinds of tobacco.

Growing out of these factors and those discussed in relation to tobacco consuming habits (p. 115), there has resulted a well-defined geography of tobacco production in the United States with the lines of demarcation between different type districts more or less sharply defined. (See folded map.)

In some instances the line is clear-cut, as for instance where it is marked by some natural feature.[3] In others there is a transition zone wherein districts overlap and two or more types of tobacco may be found. In such transition zones, that type for which current demand is greatest will predominate.

Intimately associated with this localization of tobacco production by types is its differentiation according to uses and manufacturing qualities. Some types are primarily cigar types; others are primarily cigarette, smoking, chewing, or snuff types. All of them have additional or secondary uses.

LIMITATIONS ON CHANGING OF TYPES

Related to the factors that have resulted in the localization of tobacco production by types is the question whether growers in a specific district could change from one type to another, or from one curing method to another, as a means of increasing profits. Such changes are possible only within very narrow limits. The factors that contribute to qualities and characteristics by which the types are differentiated and for which there is an established demand are as follows:

---

[3] A conspicuous example of this is the boundary between types 22 and 23, the Eastern fire-cured and Western fire-cured districts respectively, of Kentucky and Tennessee. The boundary is marked by the Tennessee River, and the distinguishing differences in the two types are due to marked differences in the soils of the two areas. Soils east of the river were formed mainly by the weathering of the parent limestone in place. Those west of the river are mainly soils deposited by the Mississippi River in earlier geological times when the region was part of the Mississippi River embayment of the Gulf of Mexico.

Another example is the boundary between types 11 and 12 in North Carolina. Here an escarpment, easily traceable in places, shows the eastern line of the Piedmont and the western edge of the Coastal Plain—each province possessing distinctive types and structures of soil with resulting differences in the tobacco produced. (See discussion of flue-cured types.)

(*1*) *The character of the soil in which the tobacco is grown*

No crop is more susceptible to slight changes in soil and subsoil than tobacco. Soil is the chief determining and limiting factor. There are a few localities where two or more types can be grown interchangeably, such as the Miami Valley district of Ohio, and the Connecticut Valley, in each of which three different types of cigar tobacco are grown. Even here it should be noted that the interchangeable types are rather closely related in the sense that all are especially adapted to the manufacture of cigars. In addition there are, as has been previously indicated, very limited transition zones wherein types are alternated or shifted.

(*2*) *The climate in which the tobacco is grown*

Climatic factors include the temperature range, normal precipitation, relative humidity, and relative number of hours of daylight.

(*3*) *Variety of seed*

The different varieties of tobacco have been bred under certain soil conditions to meet specific requirements. These varieties, if transferred to a new environment, would immediately lose some of their characteristics and consequent value.

(*4*) *Methods of cultivation, fertilization, and harvesting*

These relate particularly to the qualities obtained by the choice of cultural methods. Under cultivation are included such questions as spacing between plants, and time and height of topping, which affect the thickness of the leaf, and growing under shade or open field. Fertilization and methods of harvesting (priming or stalk cutting) have important effects, especially on the burning qualities and color.

(*5*) *Method of curing*

Types of tobacco are grouped largely according to the three curing methods practiced. The effects of curing upon the color, finish, and aroma of the tobacco vary. The effects obtained by the flue-curing method upon the varieties grown under the soil and climatic conditions prevailing in the recognized flue-cured districts would not be obtained if applied in Maryland or other air-cured districts, or in the fire-cured districts. Conversely, tobacco in the flue-cured district, if cured by air-curing or fire-curing technique, would fail to achieve the qualities and characteristics of the recognized air-cured and fire-cured types. Again, if seed from the heavy-bodied types of western Kentucky, Tennessee, or elsewhere were introduced into the Atlantic Coastal Plain it would not, even with flue-curing methods, develop the true characteristics of flue-cured tobacco.

The association between soil, seed, climate, and cultural and curing practices is so close and has such a determining effect upon the type produced as to preclude, as a general rule, the duplication of any given type in a new environment. The cases where growers can successfully shift from one type to another are so few that they serve to emphasize the general rule to the contrary.

CLASSES AND TYPES OF AMERICAN-GROWN TOBACCO

Classes of tobacco differ from each other in important respects. Types within a class differ in minor respects. The contrasts between classes, such as flue-cured, fire-cured, etc., result not only from the differences in curing methods, but from variations in soils, cultural practices and climate. The contrasts between the large, heavy, gummy, dark-brown leaves of fire-cured tobacco and the thinner, brighter colored leaves of flue-cured tobacco, or the papery leaves of Burley and Maryland, for example, are very marked.

The flue-cured tobacco, instead of being heavy and gummy, is of light body, fine texture and oily, but relatively free from gum. To achieve these desired characteristics the tobacco is raised on the light sandy soils of the southeastern seaboard. The same varieties, if raised on heavier soils such as those of limestone origin would yield heavier-bodied tobacco not suited to the uses for which flue-cured tobacco is in demand, and would not make the same response to flue-curing technique. Although many of the varieties or strains of tobacco in the fire-cured, dark air-cured, and flue-cured classes were derived from the same parent stock, they owe their present wide divergence to differences in environment, and to generations of selection and breeding.

The curing methods employed in any district are such as will contribute to the desired qualities of leaf, and the varieties or strains selected are those that respond best to the curing methods and soil types and best meet manufacturing requirements. Curing is primarily a chemical process. By regulation of the drying process certain changes in the composition of the leaf take place during the period when the cells remain alive. These changes and the rate at which they take place have important effects upon the texture, color, and other properties of the tobacco. Beyond this, the curing process consists of the further drying of the tobacco, fixing the color, and imparting finish. Involved in this process are chemical changes that extend through the fermentation or aging period. (See The Aging of Tobacco, p. 85).

Classes of tobacco vary from each other to some extent in chemical properties. Chemical analyses have been made of several classes of tobacco, but the methods employed have not been uniform and the results are not strictly comparable. In many respects the differences appear to be of minor importance. As to some, the differences are marked. The outstanding differences relate to quantity of nitrogenous constituents, including nicotine; quantity and form of carbohydrate; the ash or mineral content. The cigar types, though differing somewhat among themselves, are characterized on the whole by a high content of nitrogen and their content of mineral matter also is high, whereas their relative content of carbohydrates is quite low. These characteristics apply more especially to the wrapper types and the binder types grown on light soils. Of the domestic cigarette types, the flue-cured leaf is in a class by itself with respect to its very high content of sugar, which frequently exceeds 20 percent of the dry weight. On the other hand, Maryland contains an exceptionally high percentage of cellulose and pectin but very little sugar. Both flue-cured and Maryland are low in total nitrogen and mineral matter and the Maryland has a low content of nicotine. In chemical composition, Burley is intermediate between the cigar types and the Maryland and flue-cured types. Not many data are available on the dark air-cured and fire-cured types but they appear to resemble Burley in content of nitrogen and ash or mineral matter and they are rather outstandingly high in nicotine.

Variations between the types composing any given class of tobacco are not so great as those which distinguish one class from another. They may consist of differences in color, body, quality in a general sense, or in their response to fermentation and aging during storage. These differences, which are important from a manufacturing standpoint, result mainly from differences in soil and climate, since the curing methods, varieties of seed, and cultural methods are in general the same.

Twenty-six types of tobacco are grown in the United States, grouped into classes as follows:

	Number of types
Cigarette, smoking, and chewing types:	
Class 1. Flue-cured	4
Class 2. Fire-cured	4
Class 3. Air-cured	5
Cigar types:	
Class 4. Cigar filler [1]	5
Class 5. Cigar binder	6
Class 6. Cigar wrapper	2

[1] This includes type 46, produced in Puerto Rico (*6*).

In addition, two small types are classified as miscellaneous—Perique, grown in Louisiana, and Eastern Ohio Export.

The classes and types are here treated in the order shown.

FLUE-CURED

Flue-cured tobacco is produced in Virginia, North Carolina, South Carolina, Georgia, Florida, and, to a small extent, in Alabama. The territory is divided into two general districts commonly referred to as Old Belt and New Belt, corresponding roughly to the physiographic provinces known as the Piedmont and the Atlantic Coastal Plain. Old Belt tobacco, type 11, is produced on the loam and sandy loam soils of the Piedmont, derived from the underlying granite, gneiss, slate, etc., and underlain usually with heavy clay subsoils. Types 12, 13, and 14, comprising the New Belt group, are grown on the more sandy and gravelly soils of marine origin in the Coastal Plain. The tobacco trade recognizes a third division known as the Middle Belt, consisting of a rather narrow strip of country in North Carolina and Virginia along the fall line which divides the Piedmont and Coastal Plain provinces. In this strip, where overlapping has brought about commingling of the classes of soils which distinguish these two provinces, the tobacco takes on some of the characteristics of both the Old Belt and the New Belt.

Type 12, Eastern Carolina tobacco, is produced in a portion of North Carolina lying east of the fall line and belonging to the Coastal Plain. Type 13, South Carolina tobacco, is produced in the State of that name and in a small adjoining district of southeastern North Carolina. Type 14 is produced mostly in the southern part of Georgia, a few million pounds being produced in northern Florida and a small quantity in Alabama.

The New Belt group, types 12 to 14, differs markedly from the Old Belt tobacco, type 11, the latter being generally heavier in body and darker in color. Differences between types within the New Belt group may be traced primarily to variations in soil. Figure 1 shows the characteristic appearance of flue-cured tobacco when fully developed.

Nearly all flue-cured tobacco is primed, as opposed to stalk-cut, although in portions of the Old Belt stalk cutting is still practiced. In priming, the leaves are removed as they reach the desired stage of maturity beginning with those at the bottom. A low, four-wheeled cart or a narrow sled bearing a bin of burlap, supported by a light wooden framework (fig. 2) is drawn between the rows of tobacco and

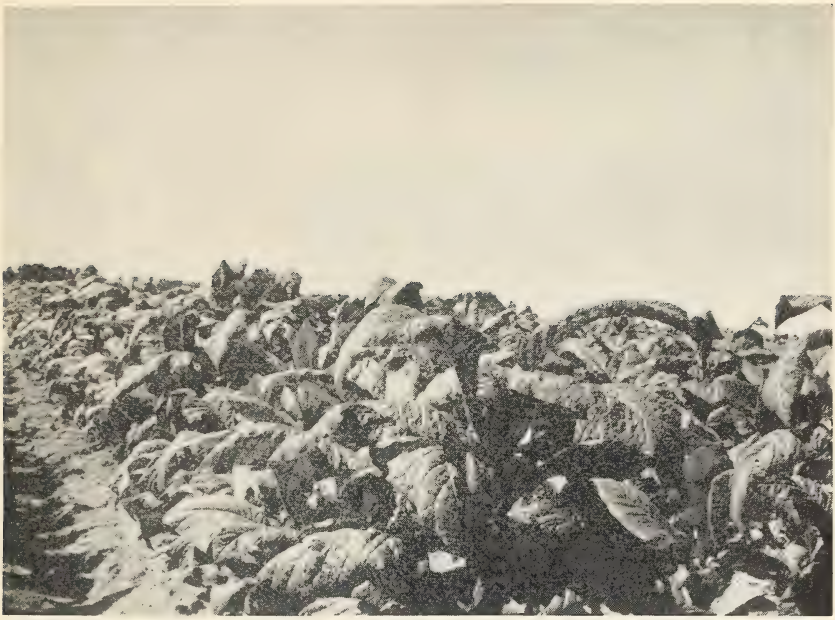

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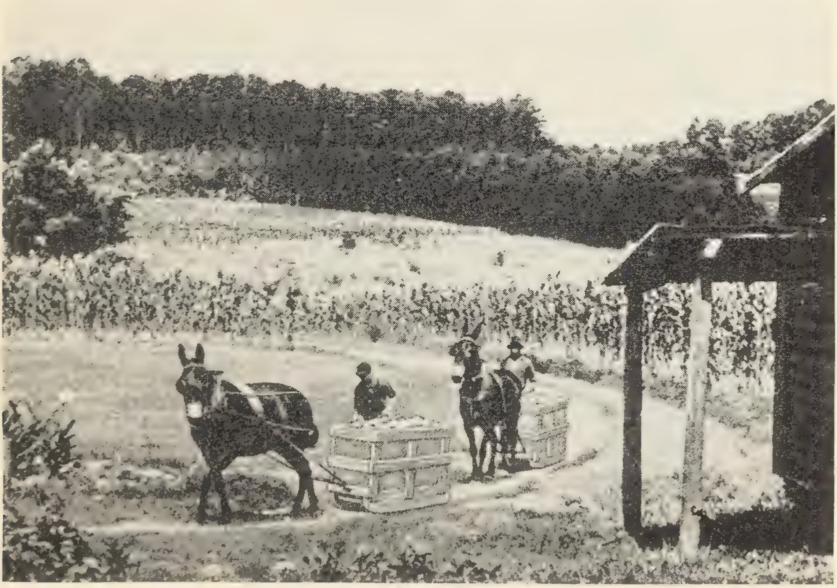
FIGURE 1.—A close-up view of flue-cured tobacco at the tobacco substation in Oxford, N. C. This shows the characteristic appearance of the plants when fully developed.



AMA 1634

FIGURE 2.—Drawing primed tobacco leaves from field to curing barn.

the primed leaves are laid carefully therein. The leaves are then taken to the curing barn where they are strung on sticks about 4½ feet long. A string is attached to one end of the stick, and by giving a turn of the string around pairs or small bunches of leaves they are held in place on the stick and are spaced sufficiently to allow the circulation of air. When the stick is full the string is tied. Sticks of tobacco are hung on poles arranged in tiers in the barn.

Flue-cured tobacco gets its name from the distinctive heating apparatus employed in the curing barns. This consists of fireboxes with large iron flues to give off heat. The fireboxes open on the outside of the building and extend about 6 feet into the building. They may be made of stone covered with sheet iron or of brick arched over. The smoke is conveyed through an iron flue extending from the firebox to the far side of the barn and back, with the exit on the same side of the building as the firebox and somewhat higher. Most of the heat is given off by the flues. Usually a barn has two fireboxes.

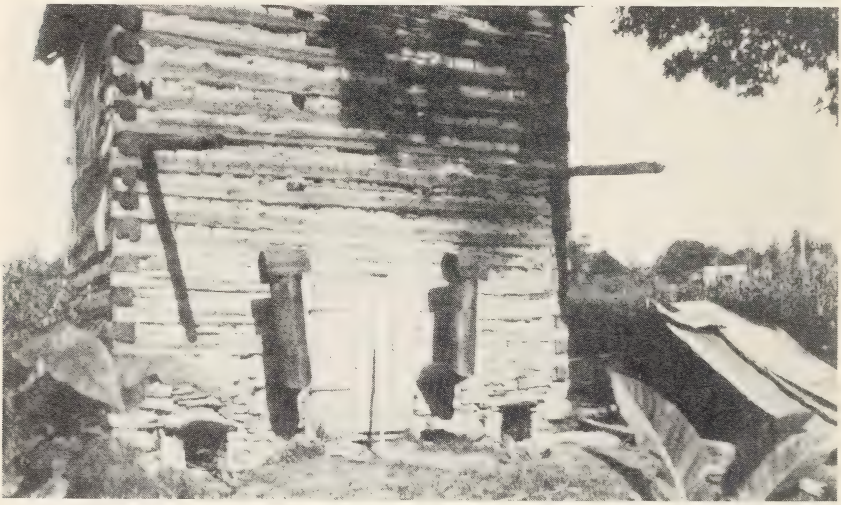


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FIGURE 3.—One of the older type curing barns in the flue-cured district of North Carolina. Logs were used in the construction and the cracks were chinked with mud. Most curing barns are now of frame construction and sheathed.

A typical log curing barn in the flue-cured district is illustrated in figure 3. Most barns, however, are of frame construction, although a few modern ones are built of hollow tile or cement blocks. Many of the older barns made of logs and chinked with mud are still in use.

During the curing a wood fire is kept in the fireboxes (fig. 4) and a constant vigil is maintained over temperature conditions within the building by means of a thermometer suspended where it can be scanned through a small window. Due to the rising cost of wood as fuel, the use of oil heaters of various types is increasing. The heat is carefully regulated to provide a moderate temperature at first so as to produce yellowing, then increased to remove moisture from the leaves, and continued until the midribs are dry. From 3 to 5 days are required to cure out a barn of tobacco, after which the door is opened to permit the more humid air from the outside to soften the tobacco. When the leaves are pliable and can be handled without breakage they are sorted into grades, tied in bundles, placed on sticks, and bulked in readiness for marketing. Each priming is cured in turn, there being five to six primings in a single crop.

The tobacco produced in the oldest part of what is now the flue-cured district first came into prominence as an export and later as a chewing type. Curing methods progressed in succession from air-curing to fire-curing to flue-curing. Its export demand seems to have grown out of the light-colored piebald or mottled markings of the leaf which found favor in France soon after the War of 1812. (*19.*)

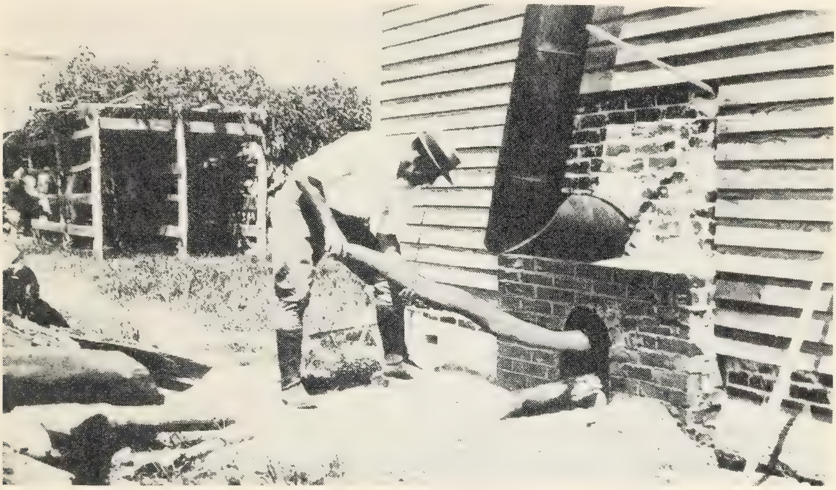
AMA 219

Figure 4.—This picture shows the firebox and flue exit of a flue-curing barn. Usually there are two fireboxes about 6 feet long. The flue exit is not always immediately over the firebox as in this case. Oil burners, in lieu of wood fires, are coming into rather extensive use.

The present demand for flue-cured tobacco both domestic and foreign arises primarily from the cigarette business. The chewing habit has declined markedly (see tables 35 and 36) and its influence on the demand for flue-cured tobacco is comparatively unimportant. Flue-cured tobacco today dominates the American export trade in tobacco.

Characteristics sought by cigarette manufacturers are found mostly in grades known to the trade as cutting leaf, cutters, and the better grades of lugs. The colors that command the highest prices are bright lemon yellow followed in order by orange and red. From these, the colors of flue-cured tobacco range down the scale to mahogany brown. In addition, the demand is for mild aromatic qualities. The success with which flue-cured tobacco has met these requirements may be judged from the expansion in acreage as cigarette production has increased.

Exports of flue-cured tobacco reached their highest level during the 3 years from July 1928 to June 1931. From 1930 to the outbreak of the second World War, exports decreased by reason of changes in economic conditions abroad, increasing competition of flue-cured tobacco produced in China, Southern Rhodesia, Nyasaland, Canada, etc., (fig. 5) and to various impediments to foreign trade inaugurated by countries striving to regulate their foreign trade in the interest of national self-sufficiency. Since the outbreak of the second World War, now in progress, exports of tobacco have been greatly reduced by blockades and by rigid restrictions upon the use of dollar exchange.

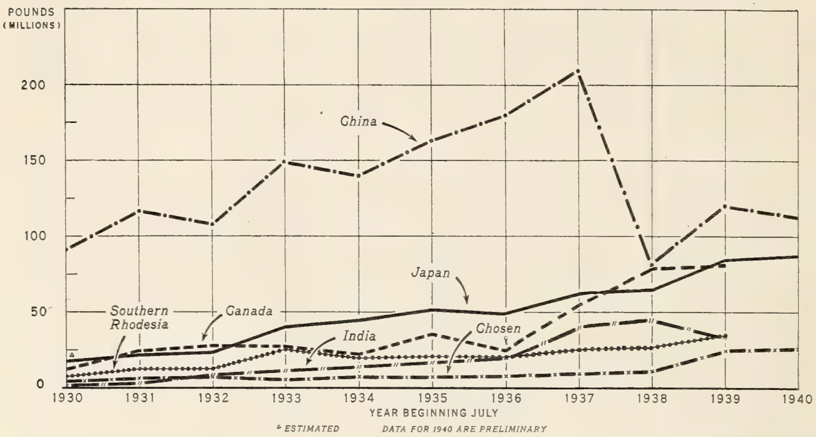

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FIGURE 5.—This chart shows the rapid increase in production of flue-cured tobacco in specified foreign countries, 1930–40. This increase has been responsible for the loss of much foreign trade in American flue-cured tobacco. The rapid rise of production in China was interrupted by the outbreak of the Sino-Japanese War in 1937.

Tables 1, 2, and 3 present statistics of flue-cured tobacco.

TABLE 1.—*Flue-cured tobacco: Acreage, production, and price, 1909–40*

OLD BELT, TYPE 11

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1909	215, 600	603	129, 969	9. 9	12, 867
Average 1910–19	249, 620	626	153, 827	21. 5	35, 294
Average 1920–29	382, 080	627	240, 318	21. 4	51, 117
1930	435, 000	677	294, 600	10. 9	32, 224
1931	364, 000	647	235, 560	7. 5	17, 769
1932	244, 000	580	141, 440	10. 6	15, 060
1933	328, 000	714	234, 245	16. 5	38, 689
1934	260, 500	761	198, 225	28. 2	55, 992
1935	330, 500	878	290, 330	19. 7	57, 060
1936	327, 500	750	245, 625	22. 6	55, 485
1937	370, 000	771	285, 400	22. 8	65, 099
1938	347, 000	770	267, 280	22. 1	58, 978
1939	454, 000	863	392, 000	14. 9	58, 371
1940 [1]	268, 000	924	247, 535	16. 6	41, 154

See footnotes at end of table.

TABLE 1.—*Flue-cured tobacco: Acreage, production, and price, 1909–40*—Con.

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
EASTERN NORTH CAROLINA, TYPE 12					
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	256, 000	718	183, 808	49. 6	91, 169
Average 1920–29	291, 090	700	205, 820	22. 9	45, 880
1930	416, 000	760	316, 160	13. 4	42, 365
1931	368, 000	700	257, 600	9. 0	23, 184
1932	240, 000	630	151, 200	12. 5	18, 900
1933	352, 000	830	292, 160	16. 4	47, 914
1934	250, 000	905	226, 250	29. 7	67, 196
1935	310, 000	960	297, 600	20. 9	62, 198
1936	293, 000	760	222, 680	23. 1	51, 439
1937	337, 000	925	311, 725	25. 1	78, 243
1938	293, 000	860	251, 980	23. 0	57, 955
1939	425, 000	1, 010	429, 250	15. 4	66, 104
1940 [1]	245, 000	1, 120	274, 400	17. 0	46, 648
SOUTH CAROLINA, TYPE 13 [2]					
1919	145, 500	695	101, 182	21. 0	21, 216
Average 1920–29	128, 870	690	89, 203	18. 4	16, 312
1930	173, 000	840	145, 340	12. 4	18, 002
1931	158, 500	714	113, 092	10. 1	11, 399
1932	108, 500	625	67, 790	11. 9	8, 057
1933	169, 800	860	146, 028	12. 8	18, 629
1934	118, 500	821	97, 335	22. 6	21, 955
1935	154, 500	963	148, 845	19. 5	28, 987
1936	151, 000	827	124, 895	20. 6	25, 731
1937	186, 000	973	180, 970	21. 2	38, 298
1938	168, 500	954	160, 720	22. 4	35, 990
1939	242, 000	957	231, 690	14. 9	34, 516
1940 [1]	139, 000	1, 055	146, 595	15. 1	22, 111
GEORGIA AND FLORIDA, TYPE 14					
1919	23, 800	488	11, 621	19. 5	2, 269
Average 1920–29	51, 850	700	39, 792	19. 5	7, 089
1930	120, 200	907	109, 071	9. 9	10, 827
1931	89, 000	711	63, 280	6. 4	4, 059
1932	25, 000	531	13, 275	10. 5	1, 388
1933	70, 800	861	60, 946	11. 3	6, 913
1934	55, 200	634	34, 970	18. 8	6, 584
1935	79, 000	942	74, 420	18. 7	13, 925
1936	93, 000	964	89, 650	21. 1	18, 898
1937	96, 500	914	88, 207	19. 8	17, 500
1938	103, 600	1, 021	105, 751	20. 3	21, 466
1939	154, 900	748	115, 890	12. 7	14, 725
1940 [1]	84, 000	1, 039	87, 263	15. 9	13, 835
TYPES 11, 12, 13, AND 14					
1909	341, 900	651	222, 505	9. 2	20, 547
Average 1910–19	472, 150	646	302, 656	20. 6	72, 449
Average 1920–29	853, 890	669	575, 133	21. 4	120, 398
1930	1, 144, 200	756	865, 171	12. 0	103, 418
1931	979, 500	684	669, 532	8. 4	56, 411
1932	617, 500	605	373, 705	11. 6	43, 405
1933	920, 600	797	733, 379	15. 3	112, 145
1934	684, 200	814	556, 780	27. 3	151, 727
1935	874, 000	928	811, 195	20. 0	162, 170
1936	864, 500	790	682, 850	22. 2	151, 553
1937	989, 500	875	866, 302	23. 0	199, 140
1938	912, 100	861	785, 731	22. 2	174, 389
1939	1, 275, 900	916	1, 168, 830	14. 9	173, 716
1940 [1]	736, 000	1, 027	755, 793	16. 4	123, 748

[1] Preliminary.
[2] Includes the border markets of North Carolina.

TABLE 2.—*Flue-cured tobacco: Production, stocks, and disappearance, 1919–40*

ALL FLUE-CURED, TYPES 11–14

Year	Production	Stocks July 1 farm-sales weight	Total supply	Disappearance beginning July 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1919	476. 9	379. 6	856. 5	504. 0
Average 1920–29	575. 1	541. 3	1, 116. 4	540. 0
1930	865. 2	703. 4	1, 568. 6	774. 1
1931	669. 5	794. 5	1, 464. 0	597. 0
1932	373. 7	867. 0	1, 240. 7	564. 9
1933	733. 4	675. 8	1, 409. 2	646. 2
1934	556. 8	763. 0	1, 319. 8	567. 2
1935	811. 2	752. 6	1, 563. 8	692. 5
1936	682. 8	871. 3	1, 554. 1	670. 9
1937	866. 3	883. 2	1, 749. 5	795. 0
1938	785. 7	954. 5	1, 740. 2	793. 9
1939	1, 168. 8	946. 3	2, 115. 1	705. 4
1940	[1] 755. 8	1, 409. 7	2, 165. 5	----------

[1] Preliminary.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 3.—*Exports of flue-cured tobacco from the United States to principal importing countries, 1923–39* [1]

Country to which exported	1923	Average 1924–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
United Kingdom	120, 802	143, 610	160, 549	152, 389	226, 631	170, 478	237, 459	228, 310	97, 226
China [3]	53, 097	83, 098	102, 632	28, 976	24, 039	43, 096	40, 162	53, 854	58, 921
Australia	17, 960	19, 293	14, 641	14, 818	18, 120	19, 407	18, 014	20, 805	20, 748
Germany [4]	25, 792	10, 425	7, 985	1, 102	6, 619	2, 726	4, 641	4, 972	808
Netherlands	12, 060	6, 597	8, 188	3, 604	7, 107	9, 017	7, 928	6, 202	18, 810
Japan	11, 255	10, 202	7, 723	9, 370	6, 702	9, 909	1, 718	0	0
Canada	9, 296	12, 059	10, 197	7, 817	4, 143	3, 748	3, 679	2, 806	6, 353
British India	3, 846	5, 186	2, 857	1, 659	2, 299	2, 901	2, 968	3, 623	3, 788
Belgium	3, 225	2, 358	2, 979	1, 878	2, 365	4, 809	5, 557	3, 267	3, 697
Other countries	8, 633	19, 845	31, 871	22, 861	24, 767	36, 549	39, 793	38, 662	41, 857
Total	265, 966	312, 673	349, 622	244, 474	322, 792	302, 640	361, 919	362, 501	252, 208
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
United Kingdom	45. 4	45. 9	45. 9	62. 3	70. 2	56. 3	65. 6	63. 0	38. 5
China [3]	20. 0	26. 6	29. 4	11. 9	7. 4	14. 2	11. 1	14. 9	23. 4
Australia	6. 8	6. 2	4. 2	6. 1	5. 6	6. 4	5. 0	5. 7	8. 2
Germany [4]	9. 7	3. 3	2. 3	. 5	2. 1	. 9	1. 3	1. 4	. 3
Netherlands	4. 5	2. 1	2. 3	1. 5	2. 2	3. 0	2. 2	1. 7	7. 5
Japan	4. 2	3. 3	2. 2	3. 8	2. 1	3. 3	. 5	. 0	. 0
Canada	3. 5	3. 9	2. 9	3. 2	1. 3	1. 2	1. 0	. 8	2. 5
British India	1. 4	1. 7	. 8	. 7	. 7	1. 0	. 8	1. 0	1. 5
Belgium	1. 2	. 8	. 9	. 8	. 7	1. 6	1. 5	. 9	1. 5
Other countries	3. 3	6. 2	9. 1	9. 2	7. 7	12. 1	11. 0	10. 6	16. 6

[1] The export statistics are on the basis of a crop year beginning July.
[2] Preliminary.
[3] Includes Hong Kong and Kwantung.
[4] Beginning May 16, 1938, the United States trade with Germany includes Austria; for comparable figures in earlier years add those for Austria and Germany.

Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.

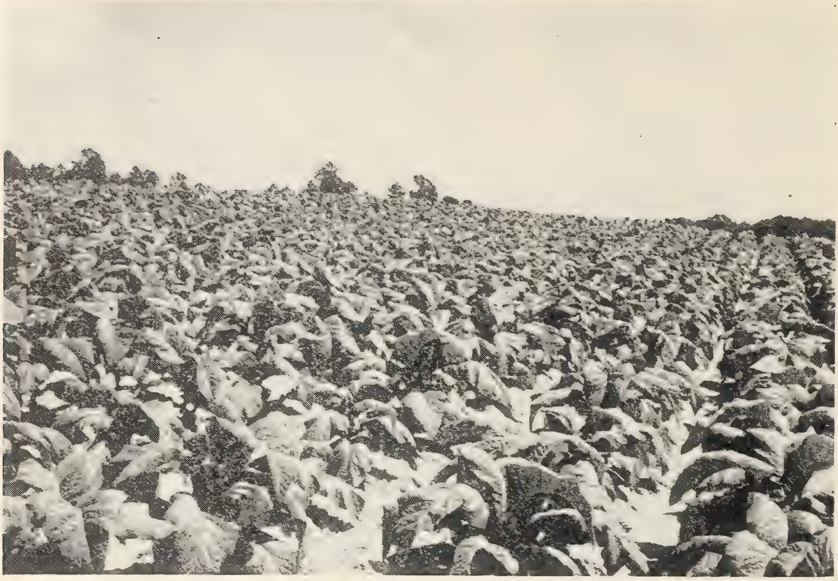
FIRE-CURED

Tobacco that is cured in the heat and smoke of open fires is called fire-cured or dark fired. Fire-curing of tobacco was an outgrowth of air-curing, although even in air-curing it was often necessary, in the early days as now, to apply artificial heat to protect the green tobacco from the effects of dampness in rainy or muggy weather.

According to Robert (*23, p. 7*), "Fire-curing on a large scale was an innovation of the eighteenth century but was by no means universal then." Wood was the usual fuel but before the Civil War charcoal was much used in sections that later turned to flue-curing. The demand in Virginia became centered on light colored or "bright" grades of leaf. The change from air-curing to fire-curing was directed at meeting this demand, and for the purpose tight barns were used, coupled with wood for firing that would give off much heat and a minimum of smoke. The tobacco was first wilted, usually in out-of-door racks. Some growers followed the practice of crowding the tobacco together compactly in the barn for 2 or 3 days until it wilted and commenced to yellow. Before building the fires the tobacco was separated or spread out again on the sticks. A moderate temperature was maintained until the tobacco was killed, after which the temperature was stepped up rapidly. The object usually was to cure the tobacco within 5 to 7 days, sometimes less. This is substantially the practice in the Virginia fire-cured district today.

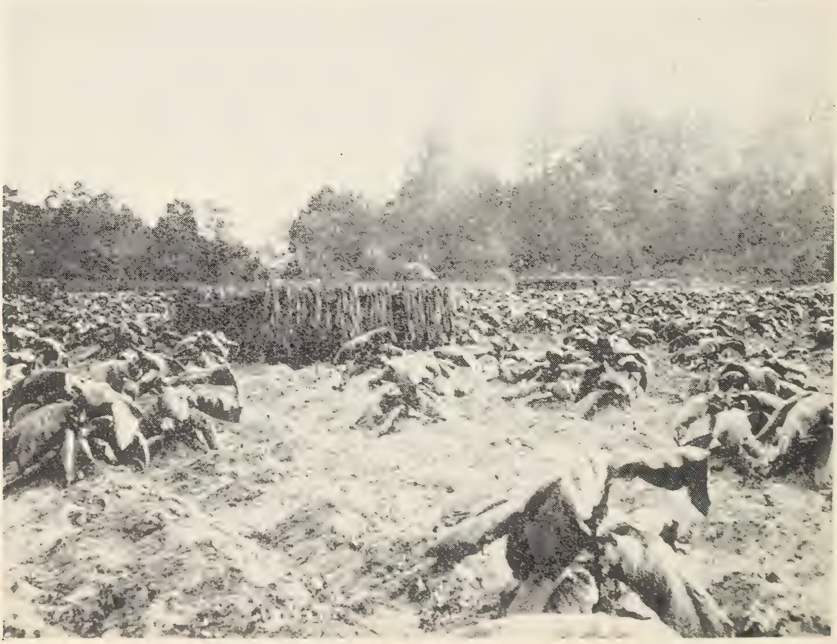
In contrast with the above, the fire-curing technique employed in Kentucky and Tennessee is to subject the tobacco to a maximum amount of smoke and very moderate temperatures. A smouldering fire of sawdust is often employed, and firing may continue for as long as 60 days. This method of "soft" curing results in tobacco of very dark color, rich in gum and the odor of smoke, whereas the fire-cured tobacco of Virginia is of lighter colors and less impregnated with smoke.

Four types of fire-cured tobacco are recognized: Virginia dark, U. S. type 21, produced mainly in the counties along the upper James and lower Appomattox Rivers in Virginia from Bedford eastward close to Petersburg; Clarksville, Hopkinsville, and Springfield, or, as it is more often referred to, Eastern fire-cured, U. S. type 22, produced east of the Tennessee River around Hopkinsville, Ky., and Clarksville and Springfield, Tenn.; Western fire-cured, U. S. type 23, produced west of the Tennessee River from Paducah, Ky., southward to Henry and Weakley Counties, Tenn.; and Northern fire-cured, or as it was formerly known, Henderson stemming, U. S. type 24, produced in several counties lying near the Ohio River to the south and west of Henderson, Ky. That portion of Kentucky and Tennessee producing fire-cured and dark air-cured tobacco has been known for generations as the Black Patch. That part of the Black Patch lying west of the Tennessee River was a part of the Jackson Purchase, commonly referred to as the Purchase, and comprises most of the type 23 district.



AMA 2200

FIGURE 6.—Field of Virginia fire-cured tobacco, type 21, near Farmville, Va.



BPI 182

FIGURE 7.—Wilting and yellowing tobacco on the scaffold, Montgomery County, Tenn., showing a method common in nearly all districts. Plants that were unripe at the time of cutting were left standing in the field for later harvesting.

Varieties of tobacco grown in the fire-cured districts differ from those planted elsewhere. The characteristic features are the very broad, dark-green leaves which are gummy to the touch, and heavily drooping. Figure 6 illustrates a field of fire-cured tobacco, type 21, near Farmville, Va., and figure 7 shows a typical field of type 22 during harvesting.

The principal domestic use of fire-cured tobacco today is in the manufacture of snuff, the consumption of which is relatively stable. The trend of consumption was upward until 1929 when total manufactures of snuff amounted to 41,127,000 pounds. Since then, manufactures, which are roughly equivalent to consumption, have been from 36 to 41 million pounds annually with an average of approximately 37.6 million pounds. (See table 35.)

Some fire-cured tobacco is used in the manufacture of Toscani type cigars, for consumption by Italians or persons of Italian extraction. This outlet was of more importance in past years when the number of recently arrived Italians was larger. Toscani cigars are long and slender, and taper from the center towards the ends. In use they are cut in two in the middle, making two short cigars. Thoroughly soaked tobacco is used, and after being rolled the cigars are dried. The cigars are very strong. The younger generation of Italian parentage tends to shift to cigarettes, and as the older generation is dying out the consumption of Toscani cigars in this country is decreasing. Some fire-cured tobacco also is used with One Sucker in the manufacture of Black Fat (see p. 32). Fine grades are used for plug wrappers, and lower grades are used to some extent in plug fillers. A small quantity goes into the manufacture of smoking tobacco.

A further domestic use for tobacco, in which the fire-cured types predominate, is in the manufacture of tobacco byproducts such as nicotine sulfate and tobacco extract. This byproducts business accounts for several million pounds of tobacco and many million pounds of tobacco stems annually.

In foreign countries the uses of fire-cured tobacco are similar to these, but more attention is given to cigars and smoking mixtures (*16*). In some countries tobacco is manufactured into "roll," a form common in Puerto Rico but unknown in continental United States. Roll consists of a rope of tobacco which is cut into convenient lengths for sale. Its nearest counterpart here is twist tobacco, made usually of Burley or dark air-cured tobacco. Puerto Rican roll is made of cigar-type tobacco grown near the coast and so affected by the salt air as to be unsuitable for cigar-manufacturing purposes (*6*).

Both domestic and foreign outlets for fire-cured tobacco have diminished strikingly in the last 20 years, as a result of shifts in consuming habits which are discussed under Outlets for American Tobacco, Measures of Tobacco Consumption, and Effect of Tobacco-consuming Habits on Geography of Tobacco Production, beginning on page 89.

In consequence of this decline in consumption the trend of production of fire-cured tobacco has been downward since 1920.

Tables 4, 5, and 6 give statistics of fire-cured tobacco.

TABLE 4.—*Fire-cured tobacco: Acreage, production, and price, 1909–40*

VIRGINIA, TYPE 21

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1909	79,750	787	62,763	7.8	4,896
Average 1910–19	66,280	769	50,976	11.6	5,658
Average 1920–29	48,560	746	36,355	14.7	5,385
1930	38,000	615	23,370	8.3	1,940
1931	37,000	765	28,305	4.7	1,330
1932	20,800	640	13,312	8.2	1,092
1933	32,800	760	24,928	6.9	1,720
1934	22,500	820	18,450	12.2	2,159
1935	23,500	870	20,445	10.2	2,085
1936	23,500	770	18,095	13.2	2,389
1937	25,400	790	20,066	10.7	2,147
1938	20,400	710	14,484	10.7	1,550
1939	23,000	910	20,930	11.2	2,344
1940 [1]	22,400	835	18,704	9.3	1,739

TENNESSEE AND KENTUCKY, TYPE 22
(Clarksville, Springfield, and Hopkinsville)

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1909	104,000	764	79,429	8.0	6,354
Average 1910–19	117,610	762	89,441	11.6	10,700
Average 1920–29	123,470	783	96,722	14.2	13,469
1930	128,000	757	96,900	9.9	9,546
1931	128,000	812	103,900	5.8	6,022
1932	99,000	794	78,570	6.6	5,201
1933	98,000	801	78,505	10.5	8,271
1934	88,500	895	79,235	11.3	8,513
1935	83,000	821	68,105	9.7	6,613
1936	70,000	805	56,375	13.4	7,559
1937	81,000	846	68,560	11.5	7,901
1938	61,100	709	43,334	8.2	3,555
1939	62,500	851	53,185	11.3	6,020
1940 [1]	65,000	900	58,500	10.1	5,900

KENTUCKY AND TENNESSEE, TYPE 23
(Mayfield, Murray, and Paducah)

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1909	76,650	735	56,312	7.3	4,111
Average 1910–19	96,430	761	73,315	10.2	7,937
Average 1920–29	67,130	792	53,513	10.6	5,649
1930	55,000	700	38,500	5.6	2,164
1931	59,000	804	47,425	4.0	1,894
1932	36,500	779	28,450	4.6	1,306
1933	33,500	657	22,005	6.8	1,491
1934	36,500	856	31,245	8.9	2,625
1935	32,500	795	25,825	7.4	1,905
1936	30,500	761	23,225	9.3	2,154
1937	34,500	817	28,200	8.9	2,502
1938	27,800	784	21,793	6.6	1,441
1939	27,300	824	22,492	8.2	1,845
1940 [1]	29,300	884	25,894	7.4	1,917

HENDERSON STEMMING, TYPE 24

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1919	25,000	780	19,500	16.0	3,120
Average 1920–29	12,900	819	10,701	11.2	1,194
1930	13,000	745	9,685	6.9	668
1931	9,000	800	7,200	4.0	288
1932	5,000	775	3,875	3.4	132
1933	4,000	740	2,960	6.5	192
1934	4,500	875	3,938	8.0	303
1935	3,600	840	3,024	6.4	194
1936	2,700	730	1,971	8.9	175
1937	2,500	850	2,125	7.2	153
1938	1,600	875	1,400	7.1	99
1939	700	850	595	7.0	42
1940 [1]	450	850	383	7.1	27

[1] Preliminary.

TABLE 5.—*Fire-cured tobacco: Production, stocks, and disappearance, 1912 and 1919–40*

VIRGINIA, TYPE 21

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1912	49.5	42.9	92.4	50.1
1919	29.8	41.5	71.3	34.0
Average 1920–29	36.4	45.4	81.8	36.8
1930	23.4	33.1	56.5	22.5
1931	28.3	34.0	62.3	24.0
1932	13.3	38.3	51.6	19.7
1933	24.9	31.9	56.8	23.9
1934	18.4	32.9	51.3	20.5
1935	20.4	30.8	51.2	19.9
1936	18.1	31.3	49.4	21.3
1937	20.1	28.1	48.2	18.5
1938	14.5	29.7	44.2	20.8
1939	20.9	23.4	44.3	13.7
1940	[1] 18.7	30.6	49.3	

EASTERN DISTRICT, TYPE 22 [2]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
1929	107.7	86.6	194.3	103.1
1930	96.9	91.2	188.1	81.4
1931	103.9	106.7	210.6	86.3
1932	78.6	124.3	202.9	58.7
1933	78.5	144.2	222.7	92.5
1934	79.2	130.2	209.4	60.8
1935	68.1	148.6	216.7	82.0
1936	56.4	134.7	191.1	80.9
1937	68.6	110.2	178.8	72.9
1938	43.3	105.9	149.2	64.9
1939	53.2	84.3	137.5	55.1
1940	[1] 58.5	82.4	140.9	

WESTERN DISTRICT, TYPE 23 [2]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
1929	47.0	21.9	68.9	48.5
1930	38.5	20.4	58.9	30.3
1931	47.4	28.6	76.0	35.3
1932	28.4	40.7	69.1	41.0
1933	22.0	28.1	50.1	18.0
1934	31.2	32.1	63.3	22.8
1935	25.8	40.5	66.3	27.8
1936	23.2	38.5	61.7	30.8
1937	28.2	30.9	59.1	27.6
1938	21.8	31.5	53.3	25.6
1939	22.5	27.7	50.2	22.3
1940	[1] 25.9	27.9	53.8	

HENDERSON STEMMING, TYPE 24 [3]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
1919	19.5	9.9	29.4	13.3
Average 1920–29	10.7	6.8	17.5	12.2
1930	9.7	.9	10.6	6.9
1931	7.2	3.7	10.9	6.1
1932	3.9	4.8	8.7	4.2
1933	3.0	4.5	7.5	2.8
1934	3.9	4.7	8.6	4.6
1935	3.0	4.0	7.0	3.5
1936	2.0	3.5	5.5	3.9
1937	2.1	1.6	3.7	2.6
1938	1.4	1.1	2.5	1.8
1939	.6	.7	1.3	.6
1940	[1] .4	.7	1.1	

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[1] Preliminary.

[2] Prior to 1929, stocks of types 22 and 23 were not reported separately.

[3] Prior to 1919, combined with Green River, type 36.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 6.—*Exports of fire-cured tobacco from the United States to principal importing countries, 1923–39* [1]

VIRGINIA, TYPE 21

Country to which exported	1923	Average 1924–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
United Kingdom	5, 909	2, 852	1, 567	1, 620	1, 382	1, 603	1, 657	1, 238	197
Australia	3, 238	2, 040	782	42	60	649	217	213	63
Germany [3]	3, 040	3, 685	1, 844	1, 293	1, 213	993	962	1, 002	0
Netherlands	2, 523	2, 211	1, 367	445	297	315	227	1, 013	608
China	2, 424	843	59	10	125	6	0	0	0
Norway	1, 712	2, 009	1, 619	1, 539	1, 870	2, 090	1, 667	2, 953	665
Canada	1, 673	297	86	114	176	101	37	27	23
Sweden	1, 050	639	860	1, 169	1, 537	1, 161	546	739	638
Denmark	749	219	313	250	150	75	290	128	111
Belgium	696	1, 113	1, 071	906	421	425	129	212	175
Portugal	494	640	275	600	258	267	462	218	339
France	313	1, 063	160	56	20	34	46	846	0
Other countries	3, 612	4, 346	3, 287	2, 237	2, 387	1, 773	1, 511	1, 506	1, 105
Total	27, 433	21, 957	13, 290	10, 281	9, 896	9, 492	7, 751	10, 095	3, 924
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
United Kingdom	21. 5	13. 0	11. 8	15. 8	14. 0	16. 9	21. 4	12. 3	5. 0
Australia	11. 8	9. 3	5. 9	. 4	. 6	6. 8	2. 8	2. 1	1. 6
Germany [3]	11. 1	16. 8	13. 9	12. 6	12. 3	10. 5	12. 4	9. 9	. 0
Netherlands	9. 2	10. 1	10. 3	4. 3	3. 0	3. 3	2. 9	10. 0	15. 5
China	8. 8	3. 8	. 4	. 1	1. 3	. 1	. 0	. 0	. 0
Norway	6. 2	9. 1	12. 2	15. 0	18. 9	22. 0	21. 5	29. 3	16. 9
Canada	6. 1	1. 4	. 6	1. 1	1. 8	1. 1	. 5	. 3	. 6
Sweden	3. 8	2. 9	6. 5	11. 4	15. 5	12. 2	7. 0	7. 3	16. 3
Denmark	2. 7	1. 0	2. 4	2. 4	1. 5	. 8	3. 7	1. 3	2. 8
Belgium	2. 5	5. 1	8. 1	8. 8	4. 3	4. 5	1. 7	2. 1	4. 5
Portugal	1. 8	2. 9	2. 1	5. 8	2. 6	2. 8	6. 0	2. 2	8. 6
France	1. 1	4. 8	1. 2	. 5	. 2	. 4	. 6	8. 4	. 0
Other countries	13. 4	19. 8	24. 6	21. 8	24. 0	18. 6	19. 5	14. 8	28. 2
KENTUCKY AND TENNESSEE, TYPES 22, 23, AND 24									
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
France	34, 135	19, 186	25, 781	17, 515	18, 915	18, 986	18, 452	17, 733	15, 129
Spain	23, 559	11, 670	7, 135	12, 222	7, 844	0	0	981	10
Belgium	18, 861	9, 207	8, 441	5, 502	4, 606	6, 587	3, 414	4, 224	1, 865
Italy	16, 762	3, 998	1, 710	574	101	780	695	229	89
Netherlands	15, 097	9, 655	6, 817	2, 114	2, 296	6, 227	6, 721	5, 873	2, 309
Germany [3]	14, 621	10, 840	7, 345	7, 015	3, 570	2, 272	2, 307	1, 668	0
United Kingdom	13, 949	12, 215	4, 677	3, 470	2, 842	3, 278	2, 516	1, 626	672
Argentina	2, 326	2, 379	1, 586	141	85	124	91	293	817
Switzerland	1, 224	1, 577	2, 016	1, 548	1, 520	2, 176	1, 994	3, 327	2, 529
Other countries	26, 555	24, 331	13, 493	10, 164	11, 087	9, 963	10, 809	10, 466	6, 681
Total	167, 089	105, 058	79, 001	60, 265	52, 866	50, 393	46, 999	46, 420	30, 101
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
France	20. 4	18. 3	32. 6	29. 1	35. 8	37. 7	39. 3	38. 2	50. 3
Spain	14. 1	11. 1	9. 0	20. 3	14. 8	. 0	. 0	2. 1	(4)
Belgium	11. 3	8. 8	10. 7	9. 1	8. 7	13. 1	7. 3	9. 1	6. 2
Italy	10. 0	3. 8	2. 2	1. 0	. 2	1. 5	1. 5	. 5	. 3
Netherlands	9. 0	9. 2	8. 6	3. 5	4. 3	12. 4	14. 3	12. 7	7. 7
Germany [3]	8. 8	10. 3	9. 3	11. 6	6. 8	4. 5	4. 9	3. 6	. 0
United Kingdom	8. 3	11. 6	5. 9	5. 8	5. 4	6. 5	5. 4	3. 5	2. 2
Argentina	1. 4	2. 3	2. 0	. 2	. 2	. 2	. 2	. 6	2. 7
Switzerland	. 7	1. 5	2. 6	2. 6	2. 9	4. 3	4. 2	7. 2	8. 4
Other countries	16. 0	23. 1	17. 1	16. 8	20. 9	19. 8	22. 9	22. 5	22. 2

[1] The export statistics are on the basis of a crop year beginning October.

[2] Preliminary.

[3] Beginning May 16, 1938, the United States trade with Germany includes Austria; for comparable figures in earlier years add those for Austria and Germany.

[4] Less than 0.05 percent.

Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.

AIR-CURED

The types of tobacco commonly known as air-cured are cigarette, smoking, chewing, and export types, as distinguished from cigar types, which are also air-cured but are grouped under other classifications.

In air curing, the tobacco is stalk cut, and is either split down the stalk, as in fire-cured or the butts of the stalks are pierced with tobacco sticks by means of a sharp removable spearhead and suspended in curing barns so constructed as to permit free circulation of air. Artificial heat is applied only in periods when dampness is likely to cause injury from houseburn or pole sweat.

The air-cured group is subdivided into light and dark types. The light air-cured tobaccos are Burley, type 31, and southern Maryland, type 32, statistics for which are contained in tables 7, 8, and 9. These two types contain varying percentages of tobacco suitable for cigarette manufacture in addition to much that is used for other purposes. The dark air-cured tobaccos (One Sucker, type 35; Green River, type 36; Virginia sun-cured, type 37) contain no cigarette grades. Tables 12, 13, and 14 present statistics of dark air-cured tobacco.

LIGHT AIR-CURED TYPES

BURLEY, TYPE 31

Burley tobacco represents a process of evolution not connected with changes in curing methods, but arising in part from the chance discovery of plants of such unusual characteristics that their propagation and the new strains that have been developed from them have revolutionized the production and manufacture of Burley tobacco. Burley as originally grown by the pioneers of Kentucky and southern Ohio was a dark air-cured type known as Red Burley. Practically without exception the strains now grown, of which there are many, come within the generic term "White Burley." The following account of the origin of White Burley originally appeared in the Western Tobacco Journal and is reprinted here as quoted by Mathewson (*19, pp. 71–72*).

> White Burley tobacco first made its appearance in the year 1864, near the village of Higginsport, Brown County, Ohio. In the spring of that year one George Webb procured from G. W. Barkley, of Bracken County, Ky., a small portion of tobacco seed of the kind then known as Little Burley. He sowed a part of this seed and grew a bed of fine-looking plants, but when ready to transplant found among them a few of a peculiar white or yellow color and, supposing them to be diseased or dwarfed plants, pulled them up and threw them away.
>
> The next year, being scarce of seed, he sowed the remainder of this old seed and again found a portion of the same kind of plants that he had thrown away the year previous. This excited the curiosity of Mr. Webb and others, whose attention had been called to these strange-looking plants, and they were induced to transplant them, raising in all about 1,000 plants, which proved to be healthy and thrifty, and when fully ripe were almost of a cream color, making a great contrast with other tobacco.
>
> The result of this experience created quite a sensation throughout the neighborhood and many growers came from every direction to see what they called a freak of nature. The tobacco cured a bright yellow or cream color, but was adjudged bitter to the taste. Some concluded that although the tobacco colored well and produced the pounds, on account of its bitter taste it would not be safe to plant any large portion of the next crop of this kind of tobacco, although considerable seed had been saved.
>
> The plant beds that were sown of this seed in the year 1866 were found to contain a much larger portion of white plants than green ones, and a sufficient quantity was transplanted to produce 20,000 pounds of cured tobacco. Two hogsheads of this production were shipped to the Cincinnati market and sold at a high price. The purchaser shipped the same to the St. Louis Fair of 1867 and, after being awarded the first and second premiums for cutting leaf, sold it for $58 per hundred.
>
> The remainder of this kind of tobacco was purchased by the firm of which I was a member, and entered at the Cincinnati Annual Tobacco Fair of the same

year to compete for the best 10 hogsheads of any class, and awarded the third premium, and was afterwards sold for $34 per hundred.

The record thus made at the several tobacco fairs of 1867 induced many of the enterprising planters of Brown County, Ohio, and Bracken County, Ky., to plant largely of this kind of tobacco, and its culture has been gradually increasing throughout the entire district used for producing cutting tobacco until the present time, when it would be difficult to find any person in this large tobacco region so ignorant of his pecuniary interest as to plant any other kind.

The character of the soil that first produced the White Burley is strong, black, coarse river-hill land, and underlaid with limestone. The growth of timber cut from this land was principally sugar, lin, buckeye, ash, walnut, hickory, oak, and beech. Although it is well known to the country dealer that much of the best quality of White Burley is grown on this kind of land, experience has satisfied us that any good, strong, old or new land that will produce any other class of cutting tobacco will produce this.

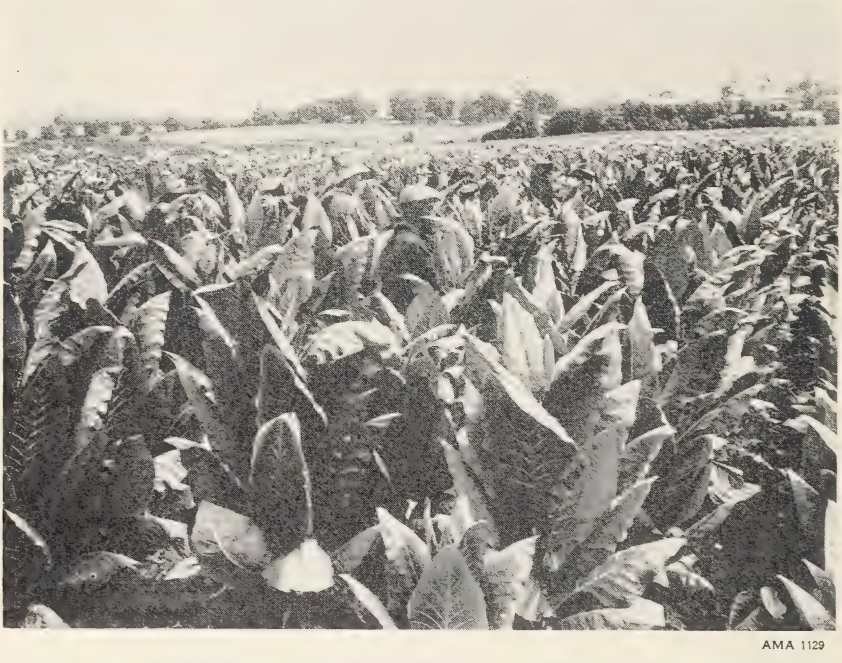

AMA 1129

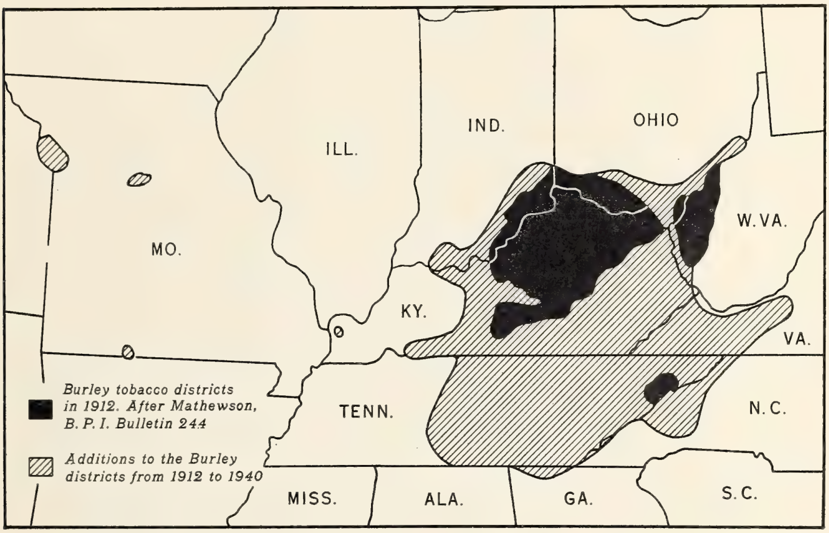
FIGURE 8.—Typical field of a stand-up variety of Burley tobacco on a farm near Columbia, Tenn.

In 1867 I gave this growth of tobacco the name of White Burley, owing to its similitude in size and texture to the ordinary Burley, and to its almost white color when thoroughly ripe. The cultivation is the same as for any other cutting tobacco.

Burley tobacco has undergone a further process of evolution, for whereas the demand of earlier days depended upon the great requirements for the manufacture of chewing and smoking tobacco, less and less is now used for the manufacture of chewing tobacco, while a new and greater outlet for Burley has been provided by the cigarette industry.

Leaf requirements for chewing, pipe-smoking, and cigarette purposes differ greatly. For chewing tobacco the so-called filler grades are used—heavy-bodied dark or red leaf and tips. These grades are as a rule too strong for smoking purposes, and will absorb large quantities of the licorice, sugar, and other materials used in the manufacture of plug tobacco. These ingredients are used to a lesser extent in the manufacture of twist. For pipe-smoking purposes medium-bodied well-ripened tobacco is desired, whereas for cigarette purposes the lighter grades of leaf, lugs, and trashes, suitable for cutting purposes, are used. Grades from these groups which are too chaffy for cutting are used in the manufacture of granulated tobacco for pipe smoking and hand-rolled cigarettes.

The higher range of prices paid for cigarette grades since manufacturers began using significant quantities of Burley for this purpose has led to efforts to increase the proportion of cigarette grades in the crop. These efforts have been directed principally along two lines—closer planting and the development of the so-called stand-up strains, both tending to promote thinness of leaf. In the stand-up strains, of which Judy's Pride and Kelly are examples, the leaves are thinner and narrower, and remain erect in growth (figure 8) instead of drooping as do the heavier broad-leaved varieties. Production of cigarette grades is facilitated by the proper selection of soils, the heavy red soils of some districts being the least suited to this purpose.


IND.
OHIO
ILL.
W.VA.
MO.
KY.
VA.
Burley tobacco districts in 1912. After Mathewson, B. P. I. Bulletin 244
TENN.
N.C.
Additions to the Burley districts from 1912 to 1940
MISS.
ALA.
GA.
S.C.

AMA 483

FIGURE 9.—In 1912, Burley tobacco was strictly a chewing and smoking type. With the great expansion in cigarette consumption, Burley has become an important cigarette type. The Burley districts have accordingly been greatly expanded.

In common with practically all types, Burley enjoyed a great increase in price early in World War I. In common with all cigarette types it remained on a relatively high price level, except in years when increases in supply or decreases in consumption forced prices down. Because of the price, the boundaries of the Burley district have been extended from year to year, partly into counties where tobacco production previously was almost unknown, and partly into districts where other types had become less profitable. The extent of this expansion since 1912 is shown graphically in figure 9.

Extension of any type of tobacco into new districts is feasible only to the extent that the soils and climatic conditions are suitable, and this limitation governs the degree to which Burley can be substituted for the dark air-cured and dark fired types produced in neighboring districts. There are limited areas in the Black Patch where Burley can be grown with success. For example, in Ballard County, Ky., there is a narrow strip of somewhat elevated land on which Burley has been produced for a number of years, although Paducah fire-cured is the predominant type in the surrounding country. Similarly, in Christian County and several nearby counties of Kentucky and Tennessee, Burley seems to flourish. It is true of many soils in these districts, however, that the Burley they produce is not of the best quality. In years of scant supplies and high prices or in years when the weather is favorable to the production of a "smoking" crop, Burley may be profitable even on soils that for this type are marginal, but it is apt to be unprofitable on those soils when supplies become ample and prices in general are lower, or when the weather conditions are such as to induce a filler crop, useful mainly in the manufacture of chewing tobacco.

Burley has long been one of the most popular of the manufacturing types. In the earlier years, before it developed into a cigarette type, this popularity rested upon its unusual adaptability for the manufacture of both chewing and smoking tobaccos. For the former use, the quality which most recommended this type to the manufacturer was its "drinking" capacity; that is, its remarkable ability to absorb the sweetening and flavoring sauces used in the manufacture of plug tobacco. It is claimed that Burley will take up 40 to 50 percent of its own weight of such sauces. In this respect Burley tobacco is in a class by itself (*19*). In the manufacture of cut-plug and rubbed smoking tobacco other than granulated, Burley is predominant. In the manufacture of granulated smoking tobacco it is probably outranked by flue-cured.

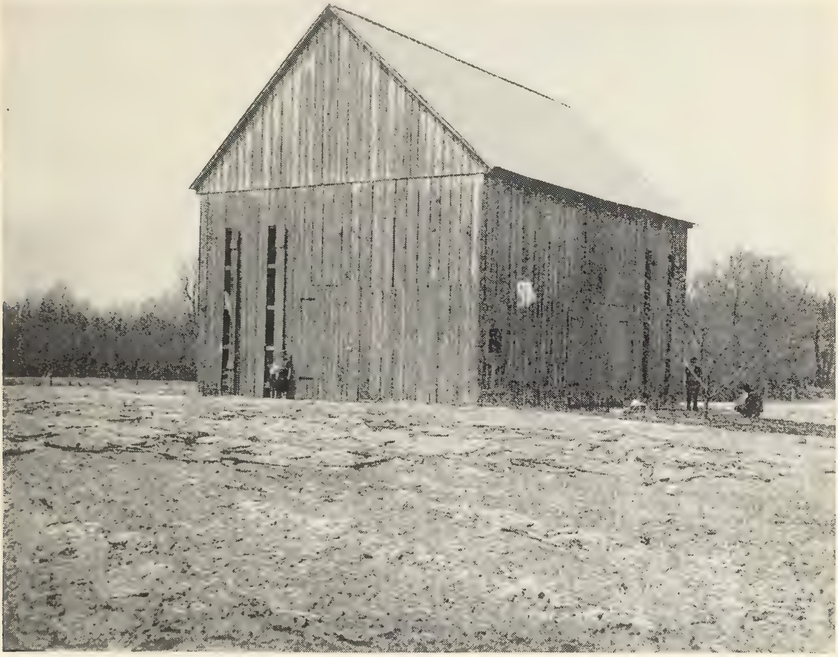
Burley tobacco, therefore, although not an important export type, meets a wide range of domestic manufacturing needs. The requirements for chewing purposes will probably continue to diminish; those for pipe smoking will probably always be large and may increase; those for cigarette manufacture will probably increase for many years to come. Since it will not be possible to produce cigarette tobacco to the exclusion of grades not suited for that purpose, Burley will be dependent upon outlets for its heavy leaf, and notwithstanding the dwindling consumption of chewing tobacco, the manufacture of smoking and chewing tobacco will probably supply such an outlet.

MARYLAND, TYPE 32

Tobacco was an important crop in Maryland even in earliest colonial times and, as in Virginia, is interwoven with the political and economic history of the colony.

Maryland enjoyed one important advantage over her sister colony to the west and south, because of a fundamental difference in the form of government. Virginia was ruled by a direct representative of the British Crown, and in all political and economic respects the colony was administered with an eye to the advantages that might accrue to the British Government and British commerce. It came about, therefore, that Virginia planters were not permitted to ship their tobacco except to English ports, and they could not take direct advantage of the rapidly spreading popularity of tobacco in continental Europe. English merchants, therefore, became necessary middlemen between Virginia growers and European consumers, and to a large extent were the beneficiaries of the expanding trade in Virginia tobacco. English shipowners were favored by governmental restrictions, which required that the tobacco be shipped in English bottoms.

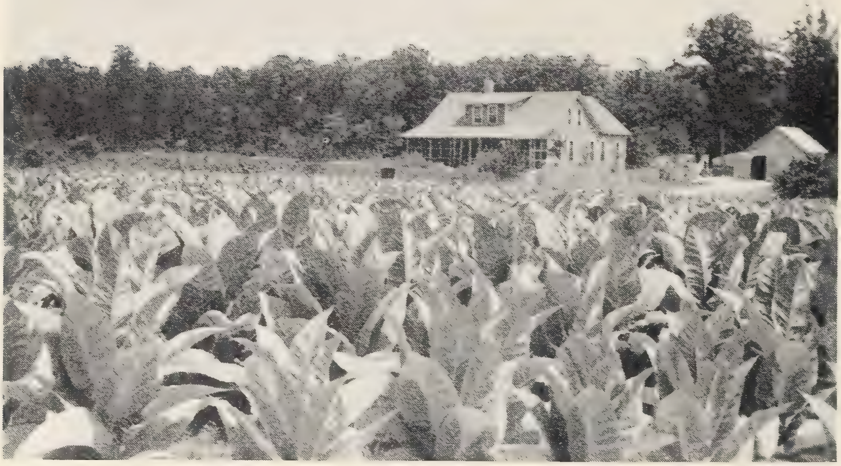
Similar restrictions could not be placed upon Maryland, whose palatinate form of government gave the colony certain sovereign rights and exempted it from the application of British dominion policies. The result was that very early an important trade in tobacco was established with France and the Netherlands, which has persisted except for wartime interruptions.



AMA 1762

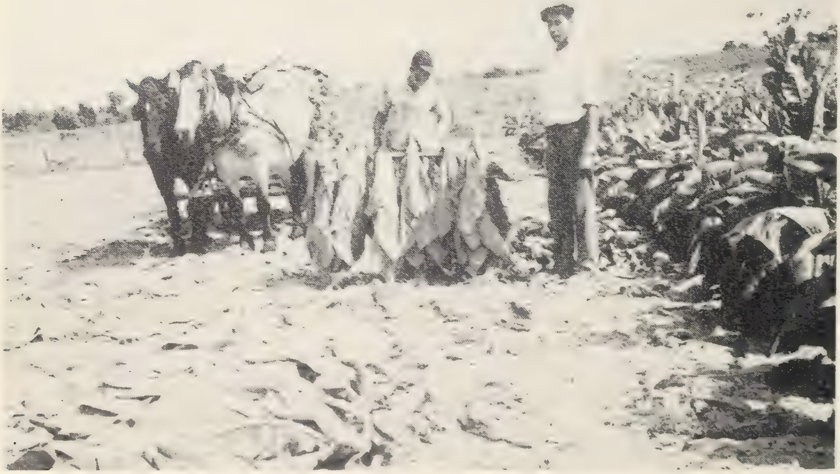
Figure 10.—A modern Maryland curing barn. The ventilators may be opened or closed according to atmospheric conditions.

Maryland tobacco is air-cured. In former years, some fire-cured tobacco known as upper country or bay was produced. The quantity was so small that it was not separated in the statistics of acreage and production for the State. Figure 10 shows the type of curing barn used, which is so constructed as to permit free circulation of air. The tobacco is classed with Burley as light air-cured and some strains of it, illustrated by figure 11, resemble the stand-up varieties of that type in appearance and habit of growth. (Compare figs. 11, and 8.) On the other hand, much Maryland tobacco is known as broadleaf,



AMA 2201

FIGURE 11.—Southern Maryland tobacco in the field. Typical view showing characteristic appearance of the leaf. Note breadth of leaf at shoulders, that is, just below the tips; also the upright habit of growth. In this respect some Maryland tobacco resembles the stand-up strains of Burley.



AMA 2202

FIGURE 12.—Harvesting Maryland tobacco. The tobacco is cut and allowed to lie on the ground for a few hours until it has wilted. The stalks are pierced by a steel spearhead on the end of sticks on which they are hung in the curing barns.

that is the leaves are broad, and droop instead of standing erect. Like Burley, Maryland tobacco is almost entirely free of gum.

Maryland tobacco is harvested by the stalk-cutting method. The stalks are pierced by a removable steel point used on the end of the sticks on which they are to be hung in the curing barn. A harvesting scene is shown in figure 12.

Until 1938 practically all Maryland tobacco was packed in hogsheads on the farm where grown. For this purpose a "prizing screw" or press was required.

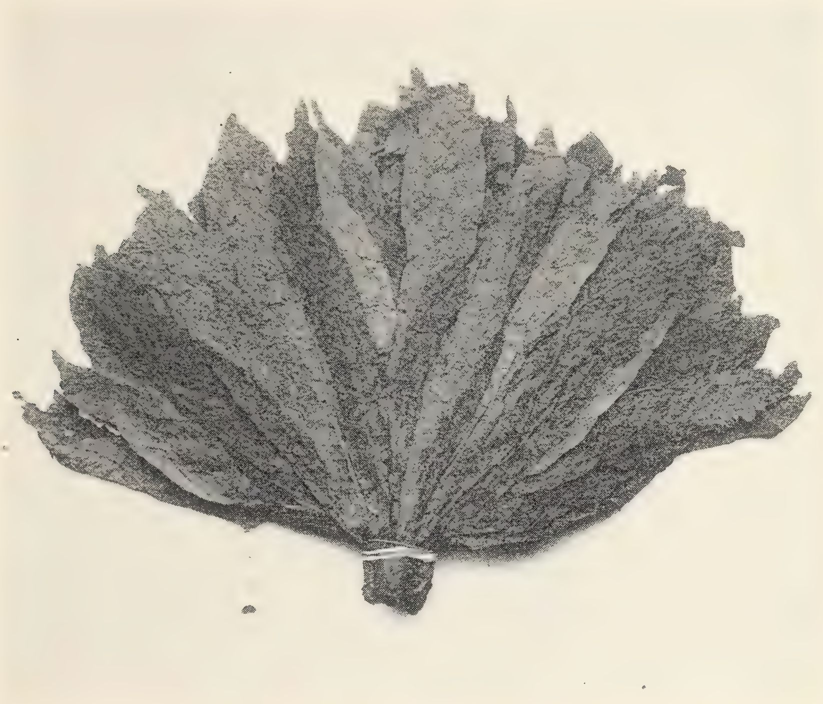

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Figure 13.—Maryland fine colory export tobacco, showing how hands are fanned out in packing.

The form in common use is the horizontal screw press, especially designed for farm use. Although screw presses are mentioned in early literature[4] they do not appear to have come into general use until 1850 or later. In earlier years prizing was accomplished by a system of levers.

Figure 13, a hand of export grade, shows the characteristic method of spreading the leaves in packing.

The outstanding characteristic of Maryland tobacco is its burn. By "burn" in tobacco is meant its capacity for holding fire, and in this respect Maryland tobacco excels most other American types. It is rather neutral in aroma. The combination of these two characteristics makes it possible to blend this type with other tobaccos, to improve the burning quality of the blend without disturbing the aroma and flavor sought. This factor has become of importance this year (1941). The intensification of hostilities in countries bordering on the Mediterranean has jeopardized the American supplies of cigarette tobaccos from the Near East. Present indications are that to conserve these supplies the percentage of Maryland tobacco in cigarette blends will be increased somewhat, and the percentage of Oriental decreased. The Maryland tobacco will not supply the aroma of the Oriental types but will tend to maintain the flue-cured and Burley in their present proportions. The effects of this recent development are observable in the increased prices being paid to growers on Maryland markets.

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[4] In the AMERICAN FARMER, No. 49, Vol. 3, the editor refers to a translation by himself of a French book entitled "A COMPLETE TREATISE OF THE CULTURE, MANUFACTURE AND SALE OF TOBACCO," published in Paris in 1791, in which screw presses are mentioned.

Until recent years, from 40 to 50 percent of the Maryland crop was exported. France, the Netherlands, and Switzerland are the chief importing countries, and from 15 to 20 other countries use this type in quantities varying from a few hundred pounds to several hundred thousand pounds each year. (Tables 8 and 9.) The total volume of exports has dwindled sharply since most of the present demand arises from the use of Maryland tobacco in cigarettes. Some Maryland tobacco is used in the manufacture of scrap filler for cigars; for this purpose it is blended with other types.

TABLE 7.—*Light air-cured tobacco: Acreage, production, and price, 1909–40*

BURLEY, TYPE 31

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1909	267, 300	956	255, 439	13. 4	34, 229
Average 1910–19	265, 750	898	238, 448	16. 6	42, 963
Average 1920–29	333, 960	811	272, 531	12. 1	56, 705
1930	472, 100	740	349, 212	15. 5	53, 988
1931	502, 700	845	424, 751	8. 7	36, 870
1932	410, 200	740	303, 739	12. 5	38, 096
1933	501, 500	753	377, 513	10. 5	39, 676
1934	303, 500	831	252, 187	16. 9	39, 575
1935	278, 900	792	220, 923	19. 1	42, 218
1936	302, 300	727	219, 630	35. 7	78, 471
1937	443, 900	907	402, 417	20. 1	80, 848
1938	407, 300	833	339, 356	19. 0	64, 465
1939	426, 200	930	396, 320	17. 3	68, 740
1940 [1]	360, 500	1, 042	375, 535	16. 2	60, 730
SOUTHERN MARYLAND, TYPE 32					
1909	26, 100	684	17, 846	8. 3	1, 481
Average 1910–19	26, 610	743	19, 771	14. 1	2, 961
Average 1920–29	29, 900	781	23, 372	23. 1	5, 387
1930	35, 000	560	19, 600	26. 6	5, 214
1931	38, 500	730	28, 105	15. 0	4, 216
1932	37, 000	775	28, 675	16. 8	4, 817
1933	37, 000	600	22, 200	17. 8	3, 952
1934	36, 400	720	26, 208	17. 5	4, 586
1935	37, 000	775	28, 675	20. 0	5, 735
1936	37, 500	820	30, 750	25. 4	7, 810
1937	35, 000	650	22, 750	17. 2	3, 913
1938	37, 500	780	29, 250	18. 5	5, 411
1939	40, 000	820	32, 800	21. 1	6, 921
1940 [1]	38, 000	840	31, 920	20. 5	6, 544

[1] Preliminary.

The decrease in the volume of exports of Maryland tobacco has been fully compensated by the increased use for domestic purposes. The result has been a fairly stable level of production which is indicated in table 10 showing the number of hogsheads of Maryland tobacco inspected at the Baltimore market from 1840 to 1940. The decreases shown in 1939 and 1940 were due to the sale of portions of the crops sold in those years (25 percent and 50 percent respectively) at the newly established auction markets.

Net weight per hogshead of Maryland tobacco as it is packed on farms varies widely, probably from 550 pounds to 650 pounds each. In 1937 the average weight of all hogsheads delivered to the Baltimore market, including some Eastern Ohio Export, was 627 pounds. In 1939 the average was only 586 pounds. The average net weight of all deliveries to Baltimore from 1936 to 1940, inclusive, was 607 pounds.

Hogsheads packed in the plants of dealers at the auction markets probably average about 700 pounds. The increase results from the use of hydraulic presses. At these plants some tobacco is now being packed in bales for greater convenience and economy in handling.

TABLE 8.—*Light air-cured tobacco: Production, stocks, and disappearance, 1912 and 1917–40*

BURLEY, TYPE 31

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1912	196.1	269.5	465.6	186.8
1919	300.3	281.9	582.2	258.7
Average 1920–29	272.5	435.8	708.3	261.1
1930	349.2	438.3	787.5	277.3
1931	424.8	510.2	935.0	252.4
1932	303.7	682.6	986.3	266.0
1933	377.5	720.3	1,097.8	277.5
1934	252.2	820.3	1,072.5	302.6
1935	220.9	769.9	990.8	309.1
1936	219.6	681.7	901.3	329.5
1937	402.4	571.8	974.2	313.5
1938	339.4	660.7	1,000.1	316.0
1939	396.3	684.1	1,080.4	318.1
1940	[1] 375.5	762.3	1,137.8	------------
SOUTHERN MARYLAND, TYPE 32 [2]				
1917	22.6	19.1	41.7	22.4
1918	26.6	19.3	45.9	24.0
1919	19.6	21.9	41.5	24.3
Average 1920–29	23.4	15.0	38.4	23.3
1930	19.6	17.7	37.3	15.5
1931	28.1	21.8	49.9	17.6
1932	28.7	32.3	61.0	22.1
1933	22.2	38.9	61.1	25.1
1934	26.2	36.0	62.2	23.6
1935	28.7	38.6	67.3	28.8
1936	30.8	38.5	69.3	28.2
1937	22.8	41.1	63.9	26.2
1938	29.2	37.7	66.9	30.6
1939	32.8	36.3	69.1	25.9
1940	[1] 31.9	43.2	75.1	------------

[1] Preliminary.

[2] Stocks as of Jan. 1 of year following production, and disappearance beginning Jan. 1 of year following production.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 9.—*Exports of light air-cured tobacco from the United States to principal importing countries, 1923–39* [1]

BURLEY, TYPE 31

Country to which exported	1923	Average 1924–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Belgium	1,782	2,988	4,019	3,554	2,293	2,928	2,089	1,404	683
Portugal	1,361	1,479	1,968	2,659	2,111	2,021	2,815	2,307	3,782
United Kingdom	1,335	741	360	159	219	182	406	343	568
Netherlands	810	783	934	1,165	586	676	1,066	1,415	831
Germany [3]	522	438	438	550	399	426	422	572	0
Newfoundland and Labrador	32	248	228	282	265	390	419	391	704
Australia	23	185	382	521	314	1,289	469	265	67
Other countries	1,861	1,764	2,404	3,140	2,741	3,275	3,403	4,568	3,451
Total	7,726	8,626	10,733	12,030	8,928	11,187	11,089	11,265	10,086
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Belgium	23.1	34.6	37.4	29.5	25.7	26.2	18.8	12.5	6.8
Portugal	17.6	17.1	18.3	22.1	23.6	18.1	25.4	20.5	37.5
United Kingdom	17.3	8.6	3.4	1.3	2.5	1.6	3.7	3.0	5.6
Netherlands	10.5	9.1	8.7	9.7	6.6	6.0	9.6	12.6	8.2
Germany [3]	6.8	5.1	4.1	4.6	4.5	3.8	3.8	5.1	.0
Newfoundland and Labrador	.4	2.9	2.1	2.3	3.0	3.5	3.8	3.5	7.0
Australia	.3	2.1	3.6	4.3	3.5	11.5	4.2	2.4	.7
Other countries	24.0	20.5	22.4	26.2	30.6	29.3	30.7	40.4	34.2

SOUTHERN MARYLAND, TYPE 32 [4]

	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
France	6,677	6,123	3,774	162	556	880	746	633	523
Netherlands	5,828	3,970	1,653	3,267	1,623	2,434	2,030	648	2,432
Germany [3]	1,542	586	325	280	398	243	78	86	57
Belgium	1,187	884	954	894	161	488	774	327	382
Italy	831	621	236	109	85	0	2	7	0
Switzerland	692	950	1,747	1,684	1,174	1,067	1,290	1,997	2,483
Other countries	1,305	1,130	951	707	693	988	401	811	455
Total	18,062	14,264	9,640	7,103	4,690	6,100	5,321	4,509	6,332
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
France	37.0	42.9	39.1	2.3	11.9	14.4	14.0	14.0	8.3
Netherlands	32.3	27.8	17.1	46.0	34.6	39.9	38.2	14.4	38.4
Germany [3]	8.5	4.1	3.4	3.9	8.5	4.0	1.5	1.9	.9
Italy	6.6	6.2	9.9	12.6	3.4	8.0	14.5	7.3	6.0
Belgium	4.6	4.4	2.4	1.5	1.8	.0	.0	.2	.0
Switzerland	3.8	6.7	18.1	23.7	25.0	17.5	24.2	44.3	39.2
Other countries	7.2	7.9	10.0	10.0	14.8	16.2	7.6	17.9	7.2

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[1] The export statistics are on the basis of crop years as follows: Burley, year beginning October; Maryland, year beginning Jan. 1 of year following production.

[2] Preliminary.

[3] Beginning May 6, 1938, the United States trade with Germany includes Austria; for comparable figures in earlier years add those for Austria and Germany.

[4] Includes Eastern Ohio, type 71.

Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.

TABLE 10.—*Inspections of Maryland tobacco at Baltimore, Md., 1840–1940*

Year	Hogsheads	Year	Hogsheads	Year	Hogsheads	Year	Hogsheads
1840	31,340	1866	32,129	1892	22,455	1918	28,552
1841	29,980	1867	40,481	1893	25,497	1919	41,763
1842	33,759	1868	26,734	1894	38,192	1920	24,694
1843	24,617	1869	27,782	1895	28,084	1921	34,017
1844	32,183	1870	25,696	1896	29,629	1922	24,157
1845	40,132	1871	30,956	1897	34,905	1923	31,512
1846	41,027	1872	33,254	1898	36,210	1924	32,003
1847	33,729	1873	38,656	1899	31,484	1925	32,306
1848	23,253	1874	27,754	1900	34,570	1926	35,223
1849	30,965	1875	33,523	1901	31,408	1927	40,511
1850	27,085	1876	42,111	1902	34,662	1928	38,458
1851	25,013	1877	38,905	1903	35,035	1929	31,180
1852	29,570	1878	46,521	1904	36,276	1930	34,438
1853	29,248	1879	35,671	1905	33,677	1931	30,155
1854	26,048	1880	36,871	1906	30,774	1932	45,922
1855	28,470	1881	27,720	1907	21,363	1933	42,696
1856	38,330	1882	35,891	1908	26,981	1934	36,003
1857	38,057	1883	33,105	1909	26,721	1935	44,997
1858	45,654	1884	35,149	1910	29,890	1936	46,319
1859	44,132	1885	32,649	1911	30,459	1937	48,790
1860	51,374	1886	38,728	1912	29,934	1938	35,922
1861	50,370	1887	33,966	1913	26,650	1939	37,340
1862	41,432	1888	32,182	1914	24,823	1940	26,354
1863	36,747	1889	26,181	1915	29,440		
1864	28,454	1890	14,027	1916	27,163		
1865	25,479	1891	27,336	1917	28,737		

EASTERN OHIO EXPORT

Eastern Ohio Export, formerly of considerable importance, has dwindled to an average annual production of less than 1,000,000 pounds. The association of Eastern Ohio Export with Maryland tobacco results from the fact that Baltimore has always been its principal market, although a portion of the crop was at one time sold in Cincinnati. The type may have had its origin in Maryland in the upper country or bay district. The curing methods employed are a curious mixture of air, fire, and flue curing, all three methods being used in the district around Barnesville, Ohio, in which the present production is localized. Figure 14 illustrates a type of flue-curing barn and wilting rack in the Eastern Ohio Export district.

In earlier years there was a demand for "spangled" tobacco of the Eastern Ohio Export type. The spangled appearance was induced by dashing small quantities of water on the tobacco while curing, causing a splotched appearance. This was supposed to indicate a desirable quality.

In export statistics, Eastern Ohio Export tobacco is combined with Maryland.

No data are available as to the acreage, yield per acre, or farm prices in earlier years. Table 11 shows the annual inspections of Eastern Ohio Export tobacco on the Baltimore market since 1840. To what extent this type was sold through other markets such as Cincinnati, when that city was an important hogshead tobacco market, is unknown. Mathewson (*20, p. 40*) states that in 1882, 1,530 hogsheads of Burley tobacco from the eastern Ohio district were delivered to the Cincinnati market, from which it seems possible that some of the export type also was sold there. This table represents the only information available on the subject. Most hogsheads of Eastern Ohio Export tobacco weigh from 750 to 850 pounds, although occasional hogsheads weigh as much as 900 pounds.

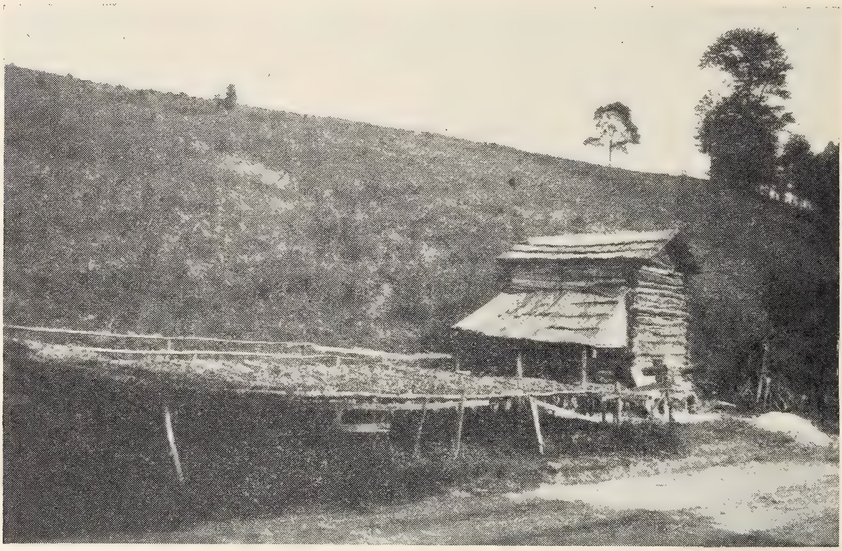

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FIGURE 14.—A flue-curing barn in the Eastern Ohio Export district. Tobacco being wilted in the sun preliminary to hanging in the barn, shown above, suggests the sun curing of earlier days in Virginia.

TABLE 11.—*Inspections of Eastern Ohio Export Tobacco at Baltimore, Md., 1840-1940*

Year	Hogsheads	Year	Hogsheads	Year	Hogsheads	Year	Hogsheads
1840	8,314	1866	15,782	1891	5,459	1916	2,700
1841	7,692	1867	22,454	1892	6,059	1917	2,388
1842	11,279	1868	10,076	1893	7,720	1918	3,680
1843	13,465	1869	15,716	1894	10,973	1919	4,888
1844	15,320	1870	13,614	1895	6,889	1920	2,984
1845	26,624	1871	14,432	1896	4,360	1921	432
1846	28,862	1872	16,347	1897	8,043	1922	550
1847	15,671	1873	24,034	1898	5,970	1923	1,345
1848	9,845	1874	28,599	1899	7,224	1924	902
1849	13,618	1875	6,036	1900	3,453	1925	432
1850	13,965	1876	17,800	1901	4,443	1926	761
1851	16,791	1877	22,914	1902	4,818	1927	934
1852	17,720	1878	16,955	1903	5,016	1928	941
1853	17,947	1879	16,660	1904	4,231	1929	1,078
1854	10,362	1880	8,285	1905	4,919	1930	1,826
1855	10,097	1881	12,443	1906	6,507	1931	350
1856	12,959	1882	8,215	1907	4,149	1932	123
1857	7,640	1883	7,650	1908	2,218	1933	18
1858	21,896	1884	5,866	1909	1,988	1934	251
1859	15,277	1885	8,698	1910	3,249	1935	182
1860	23,593	1886	12,968	1911	4,733	1936	173
1861	14,152	1887	13,763	1912	6,376	1937	134
1862	13,600	1888	6,486	1913	4,381	1938	155
1863	17,118	1889	6,512	1914	3,422	1939	450
1864	22,024	1890	4,498	1915	4,324	1940	450
1865	15,396						

DARK AIR-CURED TYPES

The dark air-cured tobaccos are One Sucker, Green River, and Virginia sun-cured. They contain no cigarette grades.

ONE SUCKER, TYPE 35

One Sucker is a manufacturing type of tobacco belonging to the dark air-cured class. It is grown mainly in a group of counties in southern Kentucky. Smaller quantities are grown in northern Tennessee and southern Indiana. At one time this type was grown to some extent in Virginia. The name comes from the fact that the removal of suckers, which sprout from the axils of the leaves, is supposed to be necessary only once during the growing season, whereas in other types it is necessary to sucker the crop at least twice.

One Sucker is distinctive in appearance, being of rather rank growth, with unusually long, narrow leaves in contrast with the broad leaves of other dark tobacco types (fig. 15). The midribs are excessively large, and the veins are at a much sharper angle in relation to the midrib than is true of any other type. Because of the large size of the midrib and the narrowness of the leaf, the loss in weight from stemming is considerably higher than for most other types.

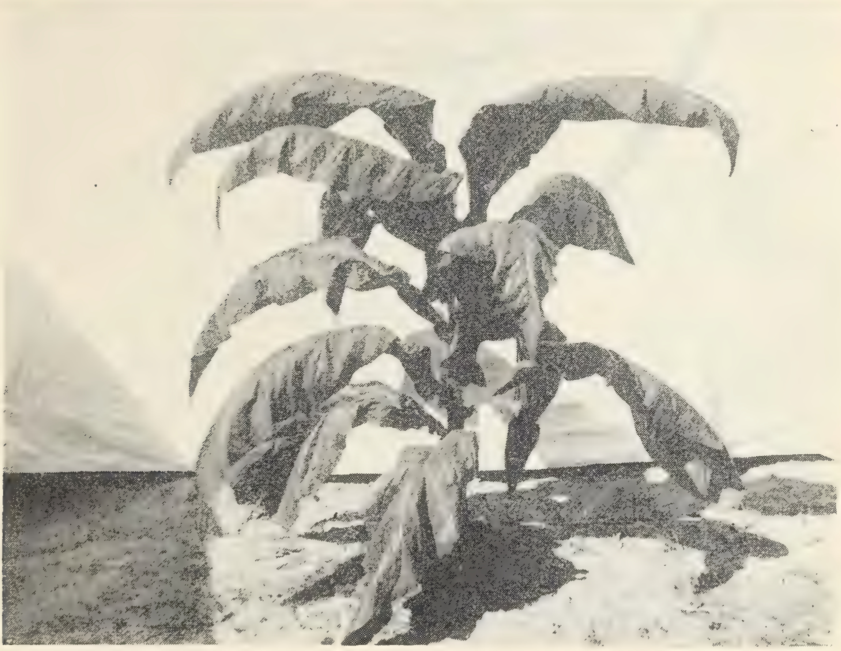

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FIGURE 15.—Plant of One Sucker tobacco, type 35. The leaves are long and narrow, and the veins make an unusually acute angle with the midrib

One Sucker thrives and produces relatively heavy yields on rough, hilly land not well adapted to other types. Many soils adapted to Burley will also produce One Sucker, but the higher prices commanded by the former are gradually eliminating One Sucker from such areas. This process of elimination arises directly from the fact that being darker, coarser, and stronger than Burley, it is unsuitable for smoking and cigarette purposes and therefore does not command the prices paid for cigarette types.

The principal uses of One Sucker are in the manufacture of chewing tobacco and by the rehandling trade. The declining consumption of chewing tobacco in this country (tables 35 and 36) has greatly reduced the domestic demand for this type. Some is used in the manufacture of short-filler cigars. It is first subjected to the bulk fermentation processes used in connection with cigar types and then cut and blended with other types for use in cheap cigars.

THE REHANDLING TRADE

The rehandling trade relates primarily to One Sucker tobacco but to a large extent also to dark fired types 22, 23, and 24. It represents a unique phase of the tobacco industry. Selected grades are subjected to processing methods which are treated as trade secrets. Under such names as Black Fat, Water Baler, and Dark African the tobacco is then exported to the west coast of Africa, especially Nigeria, Cameroons, and Dahomey, the West Indies, and Central America. It is used mainly for pipe smoking by native populations, and is sold to them in exchange for local products such as peanuts, palm oil and kernels, cocoa, piassara, rubber, and hides and skins.

Partly because the tobacco serves as a medium of exchange for products of the interior, and partly because of the fixed tastes and preferences of the consumers, the requirements of the trade are very rigid. They vary according to locality, and tobacco that fails to meet local requirements is unsalable. Important among these requirements are:

Type or class of tobacco
Quality
Body (thickness of leaves)
Size, both as to length and breadth
Color
Kind and percent of dressing
Moisture content
Number of leaves per head
Number of heads per package or container
Size and shape of container

The domestic rehandling trade with West Africa has declined in recent years as a result of competition from other sources of supply.

The following account of some of the methods of using One Sucker and native types of tobacco in Africa was supplied by H. W. Taylor.[5]

> Natives of South Africa use One Sucker tobacco and marula nuts in making snuff. The marula is a stone fruit somewhat larger than a walnut. A potent beer is made of the flesh, and the kernel is roasted and pulverized. The stems of the tobacco are burned for the ashes. The tobacco leaves are ground in a stone mortar and mixed with the ashes of the stems and the pulverized marula nuts.
>
> In Southeast Africa rustica (*Nicotiana rustica*)[6] is used instead of American tobacco. Among the Pondos in the section southwest of Durban a native tobacco is used after a method of curing resembling that for Perique.[7]
>
> The green leaves are packed in an earthen pot by pounding with a pestle. After a few days of fermentation the mass is spread out on the ground and allowed to become partially dry. This process is repeated three or four times until the tobacco becomes very black, when it is repacked, and the mouth of the pot is covered tightly with a piece of goatskin. The pot is then buried in a manure pile for several months after which the tobacco is considered ready for use. These balls of tobacco command high prices among the natives.

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[5] TAYLOR, H. W., unpublished report.

[6] *N. rustica*, is a coarse variety of the genus *Nicotiana* which is unusually high in nicotine content. It is produced on a small scale in this country, where its principal use is in the manufacture of nicotine sulfate for insecticides. The tobacco of commerce is *N. tabacum*.

[7] See Perique, p. 58.

GREEN RIVER, TYPE 36

Green River, the second of the dark air-cured group, is grown in a group of counties in western Kentucky on or near the Ohio River. The name is derived from the river of the same name which flows into the Ohio between Henderson and Owensboro, the two markets handling the bulk of the Green River production. The remaining part of the crop is sold at Madisonville, Ky.

This type (fig. 16) is used to some extent for chewing tobacco and to a smaller extent in smoking tobacco and snuff. In former years its principal outlet was the export trade, especially with Great Britain.

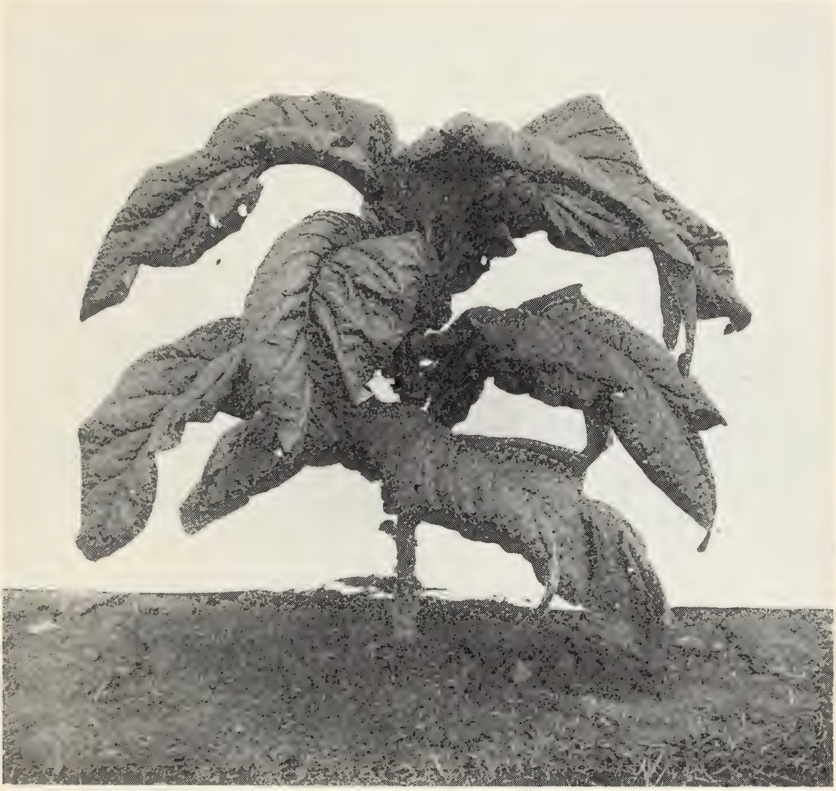

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Figure 16.—Typical Yellow Pryor tobacco plant, commonly grown in the Green River district of Kentucky.

The increasing consumption of cigarette types has lessened the demand for Green River, and production is now on a relatively small scale.

Formerly the Green River or type 36 district was centered mainly around Owensboro, Ky. Lying immediately to the west was the Henderson fire-cured, or stemming district, type 24. The principal difference beween the two types lay in the curing methods employed—air curing and fire curing, respectively. The Green River district as now constituted includes a considerable portion of the old stemming district, where the increasing cost of wood for firing purposes has caused growers to shift to the cheaper method of air curing. On the other hand, Burley tobacco has encroached on the Green River district from the east, and both types are now sold on the Owensboro market.

VIRGINIA SUN-CURED, TYPE 37

Virginia sun-cured tobacco is the third of the dark air-cured group. The quantity produced has dwindled greatly because of changes in consuming habits (tables 12, 13, and 14). The name refers to the former practice of hanging the tobacco in the sun during a part of the curing process. Figure 17 shows Virginia sun-cured tobacco in the field; figure 18 shows a rack for wilting the tobacco in the sun as a preliminary to housing, and illustrates the origin of the name "sun-cured."

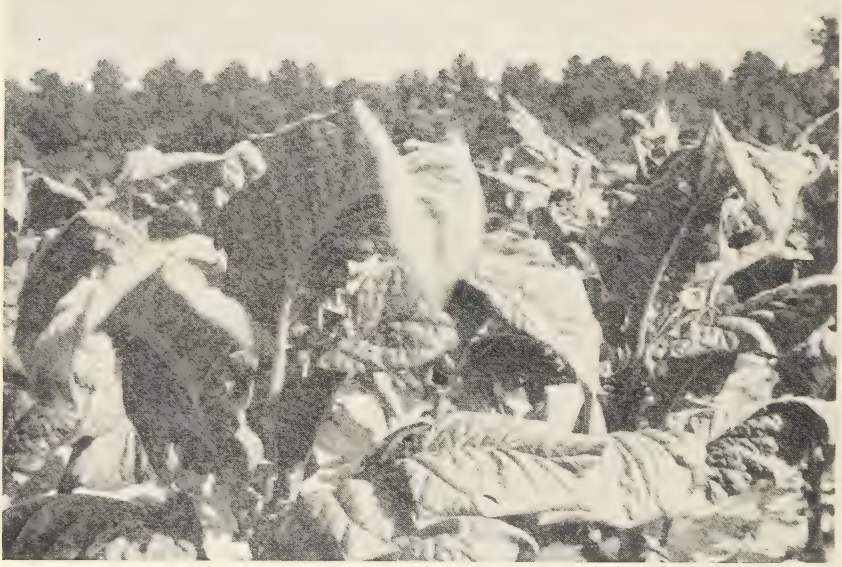
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FIGURE 17.—Virginia sun-cured tobacco under field conditions. This type of tobacco is classed as dark air-cured and is used almost exclusively for chewing purposes. Production is small and averages less than 4 million pounds per annum.

The investigations of Robert (*23*) and the present author's review of available early literature indicate that the prevailing method of curing tobacco during the seventeenth century was air curing, or air and sun curing, and that fire curing was a later development which did not become widespread until late in the eighteenth century. From this it seems possible that the Virginia sun-cured district is but the small remnant of a tobacco-growing area which may have included a considerable portion of tidewater Virginia, as well as portions of the present flue-cured and fire-cured districts of Virginia and North Carolina. It may well be, therefore, that the present sun-cured type is the nearest present approach to the Orinoco tobacco grown by the colonists.

The principal use of Virginia sun-cured is in the manufacture of plug chewing tobacco, for which it is especially suited. The district in which it is raised includes all or parts of the following counties of Virginia: Caroline, Hanover, Louisa, Goochland, Fluvanna, and Spotsylvania. At times, following years when the prices paid for Virginia fire-cured tobacco have been unusually low, the sun-cured district has expanded into portions of Cumberland, Powhatan, and Chesterfield Counties, south of the James River. Richmond is the only market.

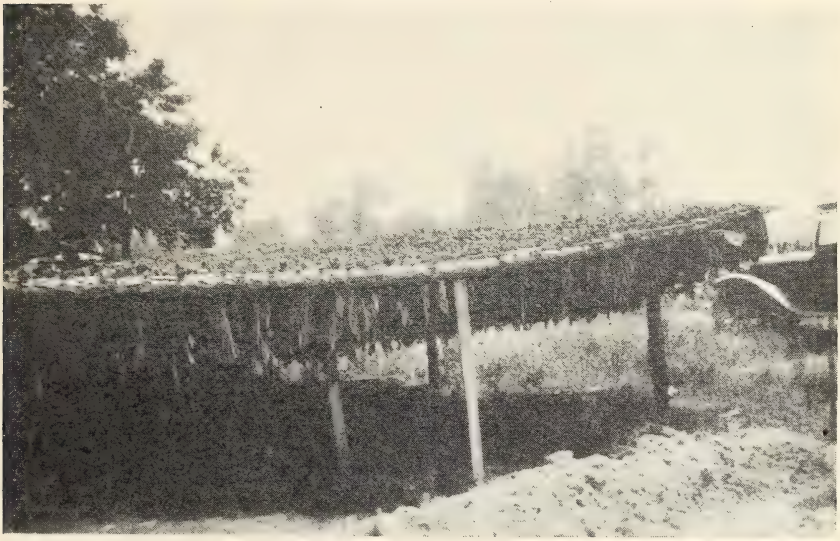

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FIGURE 18.—Sun curing tobacco, the method once generally practiced in the Virginia sun-cured district. The tobacco was hung out in the sun during part of the curing period. This method probably originated with the Indians. Air curing in open barns is the general practice now in the sun-cured district.

TABLE 12.—*Dark air-cured tobacco: Acreage, production, and price, 1909–40*

ONE SUCKER, TYPE 35

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1909	64, 900	727	47, 221	6. 4	3, 003
Average 1910–19	51, 170	835	42, 558	9. 4	4, 273
Average 1920–29	43, 390	817	35, 740	10. 2	3, 571
1930	37, 900	784	29, 718	7. 0	2, 088
1931	28, 200	796	22, 450	3. 4	755
1932	19, 300	801	15, 465	4. 8	747
1933	22, 900	783	17, 925	6. 7	1, 208
1934	21, 200	893	18, 940	6. 9	1, 248
1935	15, 600	835	13, 020	8. 2	1, 063
1936	14, 800	730	10, 802	16. 3	1, 766
1937	27, 100	908	24, 617	7. 4	1, 810
1938	20, 200	785	15, 850	5. 9	931
1939	24, 500	911	22, 313	6. 5	1, 450
1940 [1]	24, 000	898	21, 562	7. 5	1, 614

[1] Preliminary.

TABLE 12.—*Dark air-cured tobacco: Acreage, production, and price, 1909–40*—Con.

GREEN RIVER, TYPE 36

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	77,000	780	60,060	16.0	9,610
Average 1920–29	48,120	817	40,070	10.8	4,379
1930	39,000	785	30,615	8.9	2,725
1931	46,000	880	40,480	3.3	1,336
1932	24,000	825	19,800	3.4	673
1933	15,000	740	11,100	7.9	877
1934	21,000	890	18,690	8.1	1,417
1935	18,000	845	15,210	7.3	1,110
1936	16,000	700	11,200	14.4	1,613
1937	22,000	900	19,800	9.0	1,782
1938	17,000	870	14,790	9.6	1,420
1939	20,500	875	17,938	7.4	1,327
1940 [1]	20,000	875	17,500	7.6	1,330

VIRGINIA SUN-CURED, TYPE 37

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1909	11,300	786	8,883	8.4	746
Average 1910–19	13,090	751	9,852	14.0	1,295
Average 1920–29	8,020	755	6,060	13.2	775
1930	5,800	585	3,393	7.7	261
1931	5,000	650	3,250	5.3	172
1932	2,200	545	1,199	6.6	79
1933	2,800	720	2,016	8.5	171
1934	3,400	800	2,720	9.7	264
1935	3,100	900	2,790	11.0	307
1936	3,300	780	2,574	15.1	389
1937	3,800	785	2,983	8.9	265
1938	2,800	780	2,184	12.7	277
1939	3,400	975	3,315	12.2	404
1940 [1]	3,600	875	3,150	9.3	293

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[1] Preliminary.

TABLE 13.—*Dark air-cured tobacco: Production, stocks, and disappearance, 1912 and 1919–40*

ONE SUCKER, TYPE 35

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1912	42.8	24.9	67.7	32.8
1919	68.7	36.0	104.7	55.0
Average 1920–29	35.7	42.6	78.3	37.9
1930	29.7	27.9	57.6	22.2
1931	22.4	35.4	57.8	21.0
1932	15.5	36.8	52.3	19.0
1933	17.9	33.3	51.2	16.4
1934	18.9	34.8	53.7	21.0
1935	13.0	32.7	45.7	16.9
1936	10.8	28.8	39.6	15.8
1937	24.6	23.8	48.4	14.8
1938	15.8	33.6	49.4	20.5
1939	22.3	28.9	51.2	19.3
1940	[1] 21.6	31.9	53.5	------------

See footnotes at end of table.

TABLE 13.—*Dark air-cured tobacco: Production, stocks, and disappearance, 1912 and 1919–40*—Continued

GREEN RIVER, TYPE 36 [2]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1919	60. 1	47. 9	108. 0	51. 6
Average 1920–29	40. 1	53. 3	93. 4	43. 0
1930	30. 6	27. 1	57. 7	30. 0
1931	40. 5	27. 7	68. 2	26. 9
1932	19. 8	41. 3	61. 1	19. 6
1933	11. 1	41. 5	52. 6	16. 7
1934	18. 7	35. 9	54. 6	20. 3
1935	15. 2	34. 3	49. 5	18. 8
1936	11. 2	30. 7	41. 9	19. 9
1937	19. 8	22. 0	41. 8	18. 2
1938	14. 8	23. 6	38. 4	14. 2
1939	17. 9	24. 2	42. 1	12. 0
1940	[1] 17. 5	30. 1	47. 6	----------

VIRGINIA SUN-CURED, TYPE 37

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
1912	9. 8	13. 9	23. 7	10. 9
1919	6. 0	10. 8	16. 8	4. 9
Average 1920–29	6. 1	8. 3	14. 4	6. 8
1930	3. 4	4. 8	8. 2	3. 7
1931	3. 2	4. 5	7. 7	3. 3
1932	1. 2	4. 4	5. 6	1. 5
1933	2. 0	4. 1	6. 1	3. 5
1934	2. 7	2. 6	5. 3	2. 6
1935	2. 8	2. 7	5. 5	2. 8
1936	2. 6	2. 7	5. 3	2. 9
1937	3. 0	2. 4	5. 4	2. 2
1938	2. 2	3. 2	5. 4	2. 4
1939	3. 3	3. 0	6. 3	2. 8
1940	[1] 3. 2	3. 5	6. 7	----------

[1] Preliminary.

[2] Prior to 1919 combined with Henderson Stemming, type 24.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 14.—*Exports of dark air-cured tobacco from the United States to principal importing countries, 1923–39* [1]

ONE SUCKER, TYPE 35

Country to which exported	1923 [2]	Average 1926–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [3]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Belgium	86	866	654	556	511	305	90	1, 580	1, 512
British West Africa [4]	--------	1, 840	505	44	65	37	1	27	111
French Africa [5]	--------	463	133	131	105	25	31	34	11
Other countries	--------	798	326	390	155	91	95	158	468
Total	--------	3, 967	1, 618	1, 121	836	458	217	1, 799	2, 102
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Belgium	--------	21. 8	40. 4	49. 6	61. 1	66. 6	41. 5	87. 8	71. 9
British West Africa [4]	--------	46. 4	31. 2	3. 9	7. 8	8. 1	. 5	1. 5	5. 3
French Africa [5]	--------	11. 7	8. 2	11. 7	12. 6	5. 5	14. 3	1. 9	. 5
Other countries	--------	20. 1	20. 2	34. 8	18. 5	19. 8	43. 7	8. 8	22. 3

See footnotes at end of table.

TABLE 14.—*Exports of dark air-cured tobacco from the United States to principal importing countries, 1923–39* [1]—Continued

GREEN RIVER, TYPE 36

Country to which exported	1923 [2]	Average 1926–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [3]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
United Kingdom	5, 345	4, 978	2, 755	1, 901	1, 627	1, 473	2, 892	1, 869	260
Netherlands	3, 104	186	84	0	172	11	0	0	0
Belgium	2, 092	865	698	1, 032	1, 510	506	494	158	23
Ireland (Irish Free State)	1, 451	255	384	169	215	82	171	46	162
British West Africa [4]	244	1, 842	276	93	63	39	31	31	40
French Africa [5]	119	606	168	188	114	14	36	50	30
Other countries	3, 886	3, 976	318	43	9	47	38	28	54
Total	16, 241	12, 708	4, 683	3, 426	3, 710	2, 172	3, 662	2, 182	569
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
United Kingdom	32. 9	39. 2	58. 8	55. 5	43. 9	67. 8	79. 0	85. 7	45. 7
Netherlands	19. 1	1. 5	1. 8	. 0	4. 6	. 5	. 0	. 0	. 0
Belgium	12. 9	6. 8	14. 9	30. 1	40. 7	23. 3	13. 5	7. 2	4. 0
Ireland (Irish Free State)	8. 9	2. 0	8. 2	4. 9	5. 8	3. 8	4. 7	2. 1	28. 5
British West Africa [4]	1. 5	14. 5	5. 9	2. 7	1. 7	1. 8	. 8	1. 4	7. 0
French Africa	. 7	4. 8	3. 6	5. 5	3. 1	. 6	1. 0	2. 3	5. 3
Other countries	24. 0	31. 2	6. 8	1. 3	. 2	2. 2	1. 0	1. 3	9. 5

BLACK FAT, WATER BALER, AND DARK AFRICAN [6]

Country to which exported	1923 [2]	Average 1926–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [3]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
British West Africa [4]	--------	783	4, 515	5, 112	5, 185	5, 172	3, 849	3, 235	2, 711
French Africa [5]	--------	693	2, 278	2, 694	2, 740	2, 602	2, 476	3, 200	1, 651
British Guiana	--------	88	200	52	72	102	151	151	150
Spanish Africa [7]	--------	58	278	284	294	46	141	97	89
Portuguese Africa [8]	--------	26	288	273	392	346	351	274	241
Germany [9]	--------	57	254	268	389	169	41	0	0
Other countries	--------	330	761	997	995	1, 075	828	817	690
Total	--------	2, 035	8, 574	9, 680	10, 067	9, 512	7, 837	7, 774	5, 532
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
British West Africa [4]	--------	38. 5	52. 7	52. 8	51. 5	54. 4	49. 1	41. 6	49. 0
French Africa [5]	--------	34. 1	26. 6	27. 8	27. 2	27. 4	31. 6	41. 2	29. 8
British Guiana	--------	4. 3	2. 3	. 5	. 7	1. 1	1. 9	1. 9	2. 7
Spanish Africa [7]	--------	2. 9	3. 2	2. 9	2. 9	. 5	1. 8	1. 2	1. 6
Portuguese Africa [8]	--------	1. 3	3. 4	2. 8	3. 9	3. 6	4. 5	3. 5	4. 4
Germany [9]	--------	2. 8	3. 0	2. 8	3. 9	1. 8	. 5	. 0	. 0
Other countries	--------	16. 1	8. 8	10. 4	9. 9	11. 2	10. 6	10. 6	12. 5

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[1] The export statistics are on the basis of a crop year beginning October.

[2] Prior to Jan. 1, 1927, One Sucker included with Green River, and black fat, water baler, and dark African included with "other leaf."

[3] Preliminary.

[4] Includes Gold Coast, Nigeria, and other British West Africa.

[5] Exclusive of Algeria, Tunisia, and Madagascar.

[6] Black fat, water baler, and dark African are composed principally of fire-cured and One Sucker tobacco, which have been treated with oils and greases, packed in boxes, bales, and tierces, and subjected to heavy pressure. Approximate percentages are two-thirds One Sucker and one-third fire-cured. In some cases a small quantity of flue-cured might be substituted for that portion of one of the other types.

[7] Includes Canary Islands.

[8] Exclusive of Mozambique.

[9] Beginning May 6, 1938, the United States trade with Germany includes Austria; for comparable figures in earlier years add those for Austria and Germany.

Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.

CIGAR TOBACCO

All types of cigar tobacco are air-cured, although the use of charcoal fires to prevent houseburn is common. They are classified according to the principal use to be made of the tobacco, that is—filler, binder, and wrapper types—but all are used for other purposes. For instance, select grades of filler types are used occasionally for binder purposes; tobacco from binder and wrapper types may be used for all three purposes; and some of the lower grade tobacco from all types finds its way into scrap chewing. The terms "filler," "binder," and "wrapper" are defined as follows:

Filler: Tobacco used in forming the core of a cigar. It predominates in the aroma.

Binder: Tobacco used to bind the filler and to shape it into the "bunch." The binder also acts as a protection for the wrapper during the manufacturing process. It is of a fine and elastic texture and is rolled around the coarser filler. The use of a binder makes possible the use of a very thin and attractive wrapper on the cigar. Otherwise, the core of filler tobacco would present irregularities and probably puncture the wrapper, thus requiring replacement and causing a loss.

Wrapper: Tobacco used for covering the "bunch" formed by inclosing the filler in the binder and to make the finished cigar attractive.

The scrap-chewing industry is a valuable adjunct to the cigar industry, for it provides the grower with an outlet for large volumes of leaf not needed or not suited for cigar-manufacturing purposes. This is an important consideration, for even in the most favorable season some tobacco, because of the position of its growth on the stalk or because of injury, will lack the quality requisite for manufacture into cigars; and in years of unfavorable growing conditions and at times of hail injury the quantity of such lower quality tobacco may be great. Low as the prices for this so-called stemming tobacco sometimes are, they save the growers from partial or total loss, insofar as the tobacco retains sufficient quality for scrap-chewing purposes.

The prices paid for stemming tobacco are not always low. In years of scant supplies they may be high enough to afford active competition for some grades usable in cigars.

There are physical differences between the three classes of cigar tobacco. Filler types are relatively coarse in texture and heavy in body. The important considerations are the aroma and burn. Color is of importance only as it indicates qualities sought by the manufacturers; so far as the cigar consumer is concerned, the color of the filler is not important.

With respect to the binder, color is a factor only to the extent that it indicates other qualities. But binder leaf must be thinner and of finer texture than filler and more elastic. Its purpose is to hold the bunched filler in shape; this calls for a degree of elasticity not required in fillers. Although the binder constitutes a very small percentage of the total bulk of the cigar, its effect on the aroma is important. In selecting a binder the manufacturer is guided by aroma and the physical qualities needed. Good burn, meaning complete and even combustion, is generally required of binder tobacco. Poor-burning binders will affect the burn of the wrapper, and in charring will impair the even burn desired in a cigar. Likewise, good-burning binders will help the burn of a poor-burning wrapper. Poor or uneven burn of a cigar makes it disagreeable to the smoker as well as unsightly. Binder tobacco, therefore, commands a higher price than filler. A consideration of prime importance to buyers of binder tobacco is the quality of the tobacco in relation to the class of cigars in which it is to be used. Necessarily the standard of quality is higher for 10-cent cigars or better than for 5-cent cigars; it is higher for the latter class than for the two-for-5-cent cigars.

The peak of quality of cigar tobacco is reached in wrapper types. Not only is the question of aroma and burn as important as in the case of filler and binder types, and the requirements as to fineness of texture, freedom from injury and blemish greater than in the case of binders, but there is the added factor of color. In fillers and binders, color is important only as an index of quality, but in wrappers, color is important as such, because the majority of cigar smokers are influenced in their selection of cigars by the color of the wrapper.

This brings about an anomalous situation. It seems to be an accepted fact among smokers that a dark wrapper indicates a strong cigar and a light wrapper a mild one. Demand is greatest for mild cigars, or cigars that have the appearance of being mild on account of being light in color. This is a mistaken assumption, for color indicates maturity of the leaf. A mature wrapper, even though dark, as a rule will produce a milder, sweeter, more fragrant smoke than an immature wrapper. The latter may have a more attractive color, but the immaturity by which the lightness of color may have been obtained often has a deleterious effect on the smoke.

The requirements for producing good wrapper tobacco are so manifold as to make the requirements as to soil, climatic conditions, and cultural practices the most exacting to be found in the tobacco-producing industry, and the prices paid are therefore higher than for any other class of American-grown tobacco.

CIGAR-TOBACCO DISTRICTS

The cigar-tobacco districts classified according to filler, binder, and wrapper types are described below:[8]

FILLER TYPES

Type 41, Pennsylvania Seedleaf.—The most important filler type of American-grown tobacco is Pennsylvania Seedleaf, type 41, grown in the counties of Lancaster, York, Chester, Lebanon, Berks, and Dauphin, Pa. Although it is a filler type, a limited quantity of the thinner, lighter-bodied leaves, which are free of injury, are selected and used as binders or as stogie wrappers. The lower or stemming grades are used principally in the manufacture of scrap chewing tobacco or in shredded fillers for low-priced cigars. A very limited quantity is exported.

Pennsylvania Seedleaf is harvested by the stalk-cutting method and, like all cigar-leaf tobacco, is air-cured. After the tobacco is fully cured it is stripped from the stalk and tied into hands of 14 to 18 leaves, then put up in paper-wrapped bundles or bales weighing from 50 to 70 pounds for delivery to packers.

Some packers of Pennsylvania Seedleaf practice bulk-sweating (see p. 85) prior to packing in cases. Other packers of Pennsylvania Seedleaf pack direct into cases without bulk-sweating. Packing is usually completed in May and the sampling is done the following fall after the tobacco has gone through the first summer sweat.

In case-sweating, the tobacco is packed in substantial wooden cases, 30 by 30 inches across the ends or heads, and ranging in length from 36 to 52 inches. The average length of a case is about 42 inches. The weight of cases when packed ranges from 250 to 365 pounds net, or from 325 to 450 pounds gross. These cases have ½-inch spaces between the end boards in order to allow ventilation and the escape of surplus moisture during sweating. The inside of the case, except the ends, is covered with heavy paper. The tobacco is packed lengthwise in the case with the butts of the hands outward toward the end and the tails slightly lapping in the center. It is packed several inches above the top of the case; then a frame is placed on it and it is put under a casing press and the tobacco is pressed down until the lid or top of the case can be nailed on. Each case is marked with the net weight and gross weight. The cases are then stored in rows 5 to 20 cases high in warehouses especially built for tobacco storage and sweating. Some of these warehouses have heating equipment and the sweating is speeded up through the application of artificial heat.

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[8] In the discussion of types which follows, free use has been made of descriptions contained in Cir. 435 (*22*).

Tobacco of the regular cigar-filler grades of Pennsylvania Seedleaf are usually stemmed just before the time they enter into the manufacturing process. Tobacco of the lower grades is often stemmed months in advance of use in manufactured products. The scrap chewing manufacturers as a rule place the strips, or stemmed tobacco in a bulk and put it through an additional sweating process. The manufacturers of prepared short fillers, or "grinders" as they are known in the trade, use a rather large quantity of the stemming grades. This tobacco is put through stemming machines, is dried, stored in bins, and sold to manufacturers of short-filler cigars.

Types 42–44, Ohio fillers.—Three types of cigar-filler tobacco are produced in the Miami Valley in southwestern Ohio, mostly in Darke, Preble, Butler, Miami, Montgomery, and Warren Counties. Type 42 is known as Gebhardt; type 43, as Zimmer or Zimmer Spanish; and type 44, as Dutch or Little Dutch.

In recent years the annual production of the three types has averaged about 19 million pounds. No official estimates are made of the production of each type separately, but on the basis of average stocks held by dealers and manufacturers on July 1 of each year since 1929, the production averages about 37 percent of Gebhardt, 47 percent of Zimmer, and 16 percent of Dutch.

The general harvesting, curing, marketing, and handling methods for each of these types are similar. These tobaccos are stalk-cut, air-cured, and marketed under the country-sales system. The buying is done in the fall of the year and deliveries are usually made from January to April. Sometimes the movement of the crop from growers' hands into buyers' hands is much later and extends into the second quarter of the year.

Most of the buyers and packers are located in Dayton, but some are located in small towns throughout the producing district, and some of the Dayton buyers have packing houses at outlying points. The growers sort their crop into two major grades locally known as wrappers and fillers. The so-called wrappers are the actual cigar-filler grades. The so-called filler grades are suitable for use in scrap chewing tobacco and are sometimes stemmed and shredded for use as short fillers in low-priced cigars. The growers deliver these tobaccos, packed in cases, to the buyers who usually resort and repack, separating badly broken, inferior, and damaged leaves. Some buyers practice bulk-sweating; others case-sweat only. Gebhardt and Zimmer tobaccos usually go through one spring-and-summer natural sweat and are then taken out of the cases, in the fall, dipped in water, and force-sweated. This is known as resweating. Dutch tobacco is seldom dipped and resweated.

Type 45, Georgia and Florida sun-grown.—(Discontinued type; see type 56 under "Binder Types.") Production of type 45 was discontinued in 1940, although some of the tobacco previously grown still exists in manufacturers' stocks. A new binder type (No. 56) is being produced in the same area. (See p. 45.)

Type 46, Puerto Rican filler.—Puerto Rican cigar-leaf tobacco is produced in the central, inland portion of Puerto Rico. It is marketed and handled at a number of points on the island. The principal markets are Caguas, Juncos, Cayey, Comerío, San Lorenzo, and Utuado. The average annual production for the last 5 years has been about 28 million pounds.

Puerto Rican tobacco is used principally for cigar fillers and the major portion of it is used in continental United States. The leaves are smaller and thinner-bodied than most of the cigar-filler types produced in the United States. It is aromatic and has a distinctive flavor that blends well with other filler types.

It is harvested by both the stalk-cutting and the priming methods. It is air-cured under natural atmospheric conditions in curing barns that may be either of wood construction or constructed of poles thatched with cane or palm leaves.

Tobacco is marketed through refaccionistas and local dealers, by whom it is sold partly to local representatives of large cigar manufacturers or to New York dealers who in turn sell it to manufacturers. Manipulation of the tobacco after it leaves the farmers' hands includes extensive bulk sweating, stemming, and packing in bales.[9]

BINDER TYPES

Type 51, Connecticut Broadleaf.—This tobacco is produced in the valley of the Connecticut River from near the Massachusetts State line to Glastonbury, Conn., principally on the east side of the river. Some is handled and packed at various points throughout the valley but Hartford, Conn., is the principal marketing point. The annual production for the last 10 years has averaged about 13 million pounds. It is used principally for cigar binders, but some is used for wrappers, fillers, and scrap chewing.

The leaves are relatively large (fig. 19) ranging in length from about 18 to 24 inches. They are smooth and of good texture, and are brown in color. The leaves used for wrappers are the darkest of all the tobaccos used for that purpose.

Connecticut Broadleaf is harvested by the stalk-cutting method and is air-cured in barns under natural atmospheric conditions. Figure 20 shows the method of providing ventilation in curing barns in this section. After the tobacco is fully cured and is in good order for handling, it is taken down and the leaves are stripped from the stalks. It is marketed under a country-sales system, the buyers visiting the farms of the growers and bargaining as to price. From 50 to 60 percent of the growers sort their own tobacco after it is stripped from the stalks. Otherwise the sorting is done in the packing houses of the dealers. It is sorted into 10 to 12 grades, the major groups of grades being known as wrappers, seconds, top leaves, fillers, and stemming. Usually there are several grades of wrappers and seconds. For delivery by growers, the tobacco, whether sorted or not, usually is packed in paper-wrapped bundles weighing from 30 to 60 pounds. Some growers who sort their own tobacco also pack it in cases before delivery. It is delivered by the growers to the dealers from January to May; the peak of the deliveries comes in February. Usually most of the crop is marketed during the first quarter of the year.

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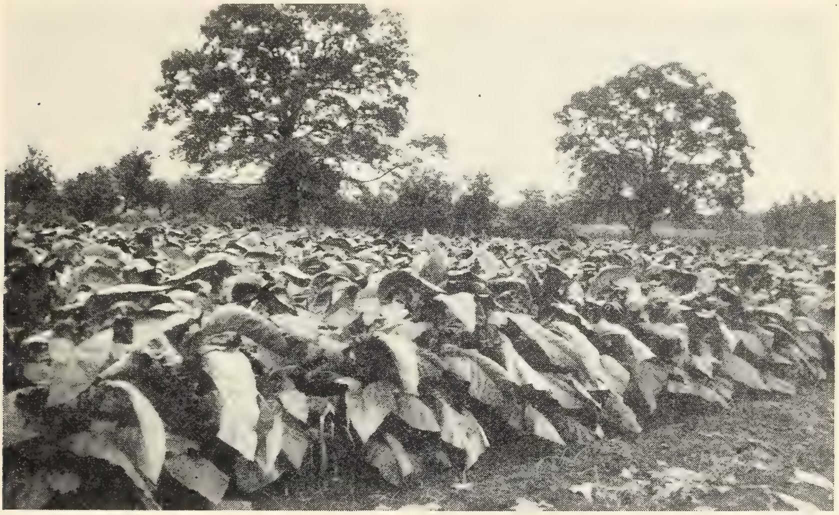
[9] For a more detailed statement of Puerto Rican tobacco see U. S. Dept. of Agr. Cir. 519 (*6*).

Connecticut Broadleaf is not bulk-sweated but is sometimes repacked into bundles for sweating. Usually it is packed directly into cases and put into a sweating room with a temperature of from 85° to 95° F. for a period of from 6 to 8 weeks. About 30 percent is packed in cases for natural sweat; that is, it is stored in a warehouse with no temperature control.



AMA 2206

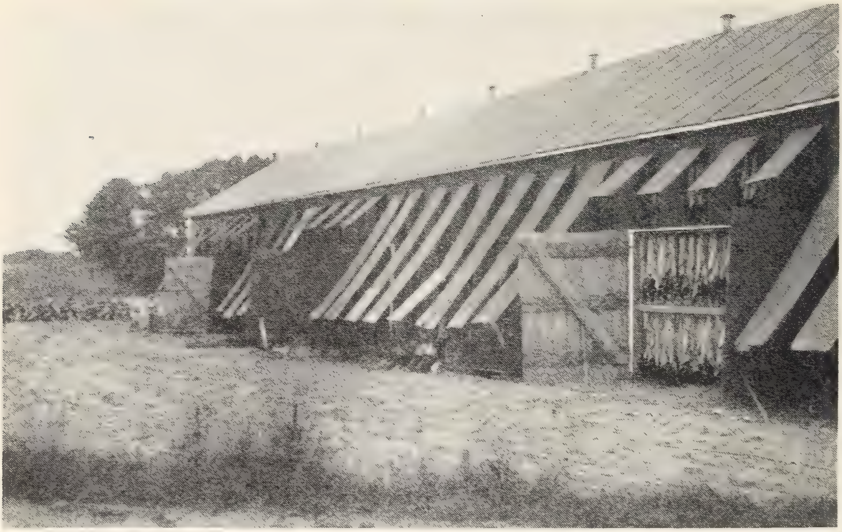
FIGURE 19.—A field of Connecticut Valley Broadleaf, type 51. This is a cigar-binder type but some is used for cigar wrappers. The lower grades are sold for fillers and scrap chewing.

Type 52, Connecticut Havana Seed.—This tobacco is produced in the same territory as Connecticut Broadleaf, but mostly on the western side of the Connecticut River. Some is grown in the Housatonic Valley. Hartford is the principal market. The average annual production for the last 10 years was about 12,500,000 pounds. Production declined to about 10,000,000 pounds in 1933, 5,900,000 in 1934, and 6,700,000 pounds in 1935, but has since risen to 15,773,000. It is used principally for cigar binders. Although about the same percentage of Havana Seed as Broadleaf is classified as wrappers by the packers, the percentage actually used for wrapper purposes is not as large. The tobacco of the lower grades is used in fillers and scrap chewing. This type as a whole is somewhat thinner bodied than Connecticut Broadleaf, is very smooth and of fine texture, and runs lighter in color.

In former years part of the Havana Seed crop was primed for cigar wrapper purposes, but recently practically all of it has been stalk-cut. It is air-cured in barns under natural atmospheric conditions. The marketing system and method of delivery are the same as for Broadleaf except that a very large percentage is sold by the growers in unassorted bundles and then sorted by the packers. It is also sized to 2-inch lengths ranging from 14 to 26 inches, the greater part ranging from 18 to 24 inches. Deliveries are made by the growers from December to March, in some years extending into April. Most of the deliveries are usually made in January.

The packing and fermentation methods employed are similar to those used in handling Broadleaf.

Type 53, New York and Pennsylvania Havana Seed.—This tobacco is produced in a widely scattered area through northern Pennsylvania and southern and central New York. The principal marketing points are Elmira and Syracuse, N. Y. The average annual production for the last 10 years has been about 1,500,000 pounds. The tobacco of this section has been classified as a binder type, but from a type standpoint two kinds are produced. The Big Flats is a binder type similar to the Connecticut Havana Seed, and the Onondaga is more of a filler type. At one time these tobaccos were used principally for cigar binders and fillers, but more recently the greater part of them has been used in scrap chewing tobacco.



AMA 2207

FIGURE 20.—A tobacco-curing barn in the Connecticut Valley. Note the method of regulating the circulation of air.

Type 53 tobacco is stalk-cut and air-cured. It is sold mostly at the farms of the growers by private sale, and delivered to the dealers in paper-wrapped bundles ranging in weight from 30 to 50 pounds. Little sorting is done by the growers. They usually sort into only two grades. The dealers and packers sort out the binders and fillers from the best of the growers' grades and pack them in cases. Some bulk-sweating is practiced but most of the better quality tobacco is packed directly into cases and is "natural sweated." The stemming grades are usually sweated in the paper-wrapped bundles in which they are delivered by the growers. Deliveries are usually made in the first quarter of the year, and most of the packing is done within this period.

Types 54 and 55, Southern and Northern Wisconsin.—These types are closely related, the differences between the two being largely if not entirely due to the wide disparity between the soils on which they are grown. Type 54, Southern Wisconsin, is produced on the moraines of the southern part of the State, principally in Dane, Rock, and Columbia Counties. Relatively little of the crop is used for binder or filler purposes at the present time, most of it going to the stemming trade for scrap chewing purposes.

Type 55, Northern Wisconsin, is not produced in the northern part of the State, as the trade name seems to imply, but north of the Wisconsin River in the hilly western portion of the Driftless or nonglaciated southwestern section, especially Vernon, Crawford, and Richland Counties. This is a strictly binder type, with only the inferior grades going into filler and stemming outlets. The small Minnesota crop is classed with Northern Wisconsin as type 55.

Considering the types as a whole, the leaves of Wisconsin tobacco are somewhat larger and coarser than of the binder types produced in Connecticut. Wisconsin tobacco is stalk-cut and air-cured. It is marketed by private sale at the farm of the grower for delivery at central points such as Janesville, Stoughton, Viroqua, etc., or through a growers' cooperative organization. Deliveries are usually made during the first quarter of the year. As a rule, the greater part of the crop is out of the growers' hands by the first of April but sometimes, because of adverse weather, the delivery period extends into the second quarter. Sometimes when prices are low growers hold the tobacco on the farm for a year or more.

Only a limited amount of sorting is done by the growers prior to delivery. They sort into two grades known as wrappers and fillers. Here, as in most tobacco districts "wrappers" is a term to denominate choice or top quality. The so-called filler grades, usually known in the trade as stemming, are used principally for scrap chewing. The tobacco is delivered in paper-wrapped bundles ranging in weight from 40 to 50 pounds.

The packers sort and size the so-called wrapper grades and from these select the leaves of binder quality. Most of the Wisconsin binder grades are packed direct into cases after being sorted and sized, but some are bulk-sweated for about 2 weeks before packing.

The stemming grades of Wisconsin tobacco are usually bulk-sweated for about a year in the paper-wrapped bundles in which they are delivered by the growers. Just before being stemmed the tobacco is taken out of the bundles, the damaged tobacco is thrown out, moisture is added, and the good tobacco rebulked and resweated for a short period.

Type 56, Georgia and Florida Sun-Grown.—This is a new binder type, produced mainly in northwest Florida and southwest Georgia in the same area as the Georgia and Florida shade-grown, type 62. It has displaced the old Sun Sumatra cigar filler tobacco, type 45. The latter type was grown in this district under contract and sold to one company. It was primed and after delivery to the purchaser was bulk-sweated. The cost of handling was relatively high for a filler type. These costs have increased, especially since enactment of the Fair Labor Standards Act, and none of the old filler type has been produced since 1939. (See footnote 3, table 15, p. 52.)

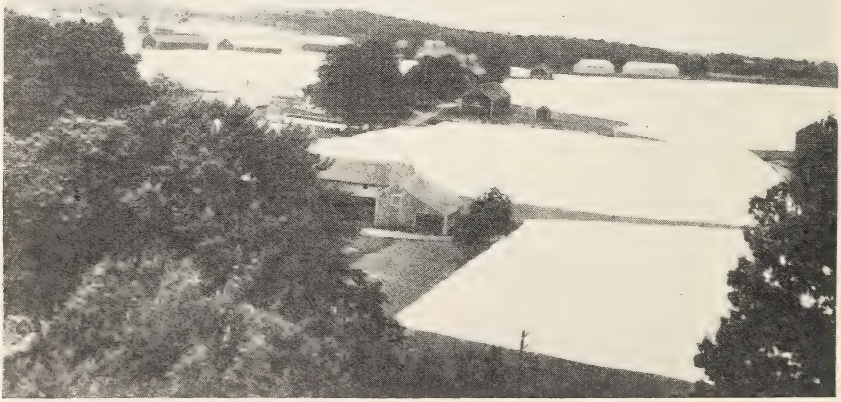
Beginning in 1936, experiments were made in producing cigar binder tobacco in the same area. Various new strains of seed were introduced, including the so-called Mexican broadleaf, R. G., and 301. Mexican broadleaf, the origin of which is uncertain, was found to be the most satisfactory and is now the prevailing type. The methods of harvesting, curing, and handling are essentially the same as those previously employed in connection with Sun Sumatra.

Mexican broadleaf produces shorter leaves than other binder types. They are very thin and spready, that is, wide in proportion to their length. The tobacco has fair quality, excellent burn, and the percentage of a normal crop running to usable binder grades is unusually high. Like the Sun Sumatra type that preceded it, Mexican broadleaf is produced under contract, which indicates a restricted outlet and some uncertainty as to the permanence of the market for the type. Its present use is in the manufacture of two-for-5-cent cigars. Quincy, Fla., is the marketing point and center of production.

WRAPPER TYPES

Type 61, Connecticut Valley Shade-Grown.

Type 62, Georgia and Florida Shade-Grown.—As the two types of shade-grown tobacco are very similar in cultural and handling methods they will be considered together. Connecticut shade-grown is



AMA 2208

FIGURE 21.—Typical view of tobacco tents in the Connecticut Valley. From 6,000 to 8,000 acres of tobacco are grown annually under shade in New England, and from 3,000 to 4,000 acres in Florida and Georgia.

produced in the valley of the Connecticut River in Massachusetts and Connecticut. The principal marketing point is Hartford, Conn. The average annual production for the last 5 years has been about 6 million pounds. Georgia and Florida shade-grown is produced in north-central Florida and southern Georgia. The principal marketing point is Quincy, Fla. The average annual production for the last 5 years has been about 3 million pounds.

Shade-grown tobacco is used principally for cigar wrappers. The leaves are small, usually ranging in length from 10 to 16 inches, although some leaves are as short as 8 inches and some as long as 20 inches.

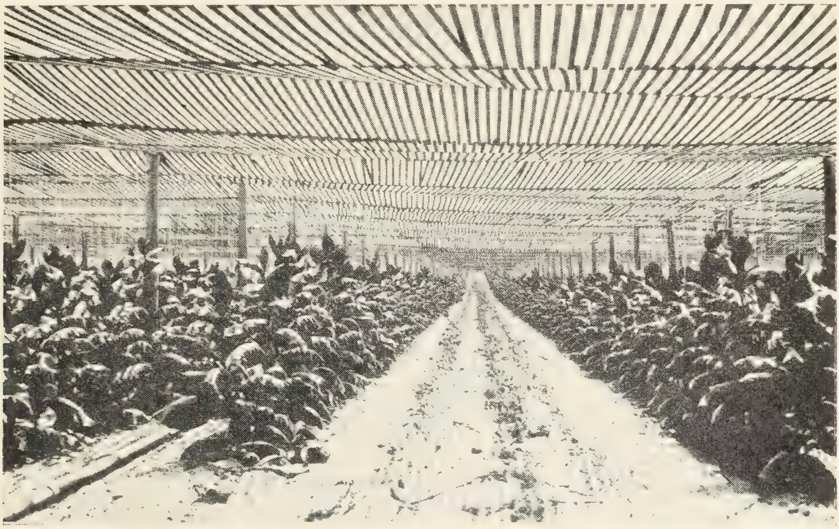

AMA 2209

FIGURE 22.—A typical lath shade in the Georgia-Florida district.

Body, texture, elasticity, combustibility, and color are the most important elements of quality in tobacco for cigar wrappers. Shade-grown tobacco is very thin, is of very fine texture, is elastic, and ranges in color from light tan to light brown. It is essential that cigar wrappers burn well and evenly, and that the leaves be free of injury. The greatest care must be exercised by the growers throughout the culture and handling in order to produce tobacco of such quality. Production costs are higher for shade-grown than for any other types. This type differs from all other types in that it is produced under artificial shade. Three kinds of shade are used—slats, cloth, and a combination of slats and cloth. In recent years the use of cloth has predominated (figs. 21 and 22).

Shade-grown tobacco is harvested by priming or picking the leaves as they ripen, beginning at the bottom of the stalk and removing two or three leaves at a time. Usually four primings are made, and in sales of the tobacco the priming is stipulated as No. 1 Priming, No. 1½ Priming, No. 2 Priming, or No. 3 Priming. Each priming is handled separately and the leaves are carefully carried to the curing barns. When they have wilted sufficiently to permit handling without breakage, they are strung on twine by punching a hole through the butt of the stem. Each end of the string is fastened to a lath and the laths are hung in the tiers of the curing barn. (See fig. 23.)

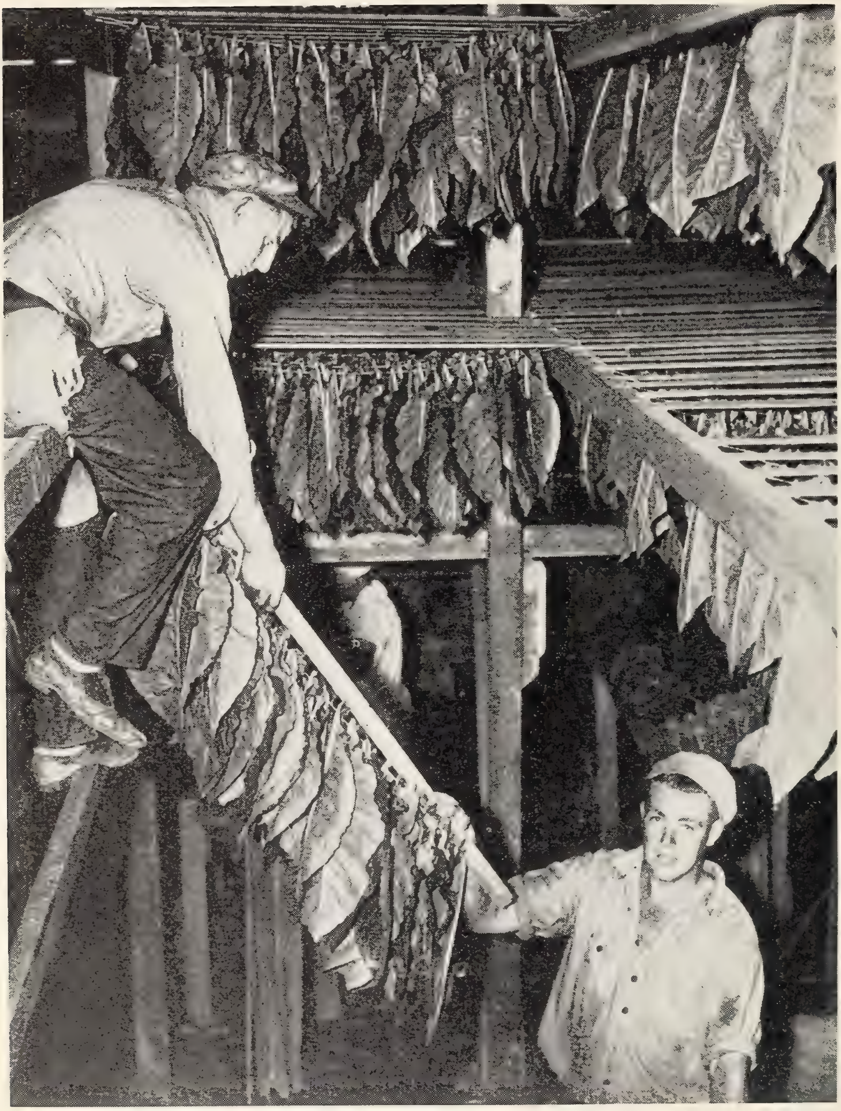
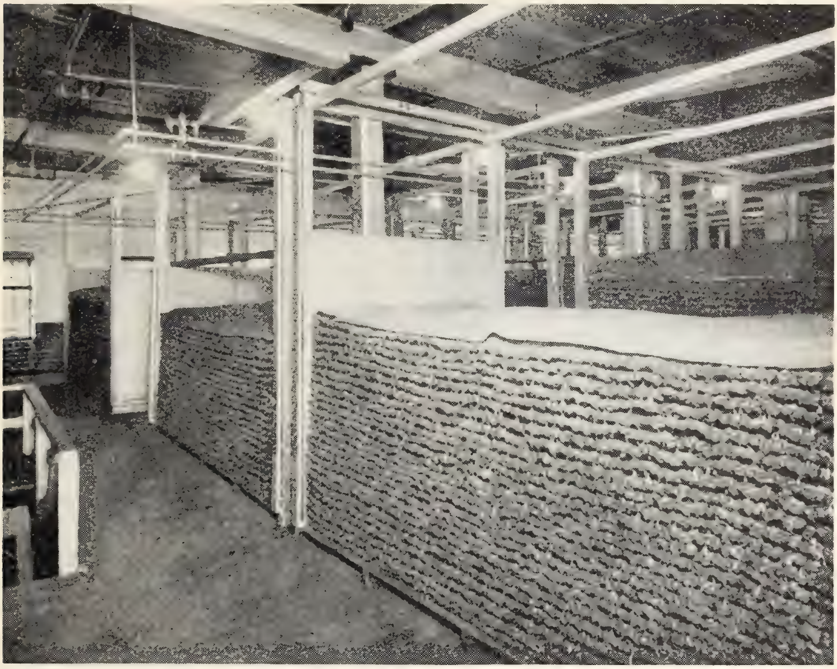

AMA 1609

Figure 23.—Hanging laths of type 61 tobacco in the curing barn, Connecticut Valley district. (Courtesy of Circle Magazine.)

The tobacco is watched closely during the curing process and the circulation of air is controlled by means of a system of ventilators. When these do not afford sufficient control over temperature and humidity, small charcoal fires are used, spaced at regular intervals under the tobacco.

After the tobacco is thoroughly cured it is placed in boxes and delivered at once to the packing houses where it is removed from the boxes and placed in bulks about 5 or 6 feet wide and from 12 to 16 feet long, and usually about 8 feet high. These bulks contain from 4,000 to 6,000 pounds (see fig. 24). Temperature and humidity are definitely controlled in the bulking room. A temperature of 75° to 85° F. is usually maintained and the relative humidity is not allowed to fall below 70 percent. A perforated metal tube is placed through the center of each bulk for the purpose of inserting a thermometer for inner temperature readings.



AMA 1296

FIGURE 24.—Bulks of shade-grown tobacco during fermentation.

The moisture content of the tobacco when placed in the bulks ranges from 24 to 32 percent. With this moisture content, fermentation starts at once and the temperature of the bulk gradually increases until within about a week it reaches a maximum of from 110° to 120° F. The maximum temperature attained and the number of days before a maximum is reached vary with the condition and quality of the tobacco and the room temperature. When the temperature starts downward the tobacco is turned or is rebulked. In rebulking the position of the tobacco is reversed; that is, the outer layers are placed on the inside and the inner layers on the outside of the new bulk. Fermentation starts again and the temperature again rises, but much more slowly, and it usually does not reach a maximum of more than 105° after this first rebulking. The tobacco is turned again when the maximum temperature is reached. It is always turned at least three times and sometimes as many as five rebulkings are necessary. Each time the temperature rises more slowly and a lower maximum point is reached. Sometimes 15 days elapse between turnings.

When the tobacco comes out of the bulks it is sorted, sized, tied into hands, packed loosely in cases, and is kept for 3 or 4 weeks in a mulling room where a temperature of about 90° F. is maintained (fig. 25).

Shade-grown tobacco is sorted by skilled laborers on the basis of color, body, texture, uniformity, and injury, and is sized to 1-inch lengths. It is usually sorted into 10 to 15 grades. When the sorted and sized tobacco comes out of the mulling room it is packed and pressed into bales about 32 by 32 by 12 inches, ranging in weight from 150 to 175 pounds net and averaging about 165 pounds each.

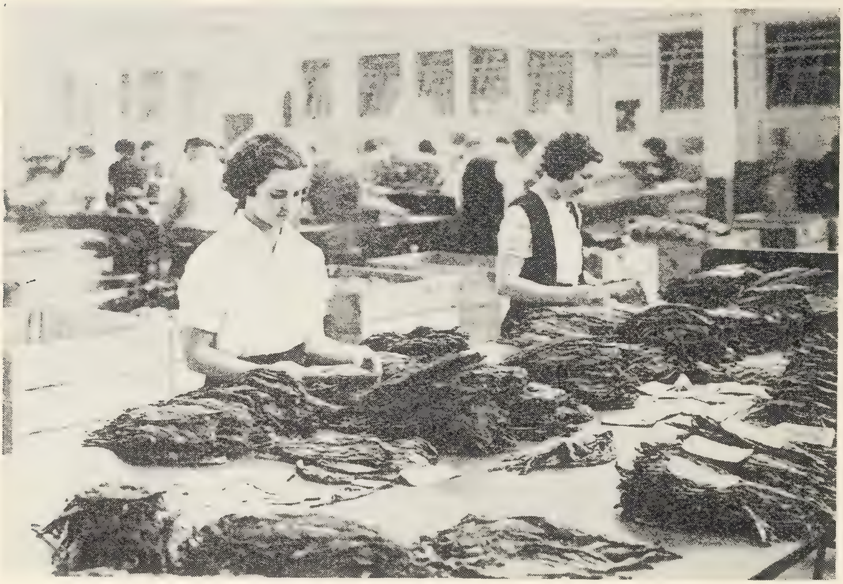
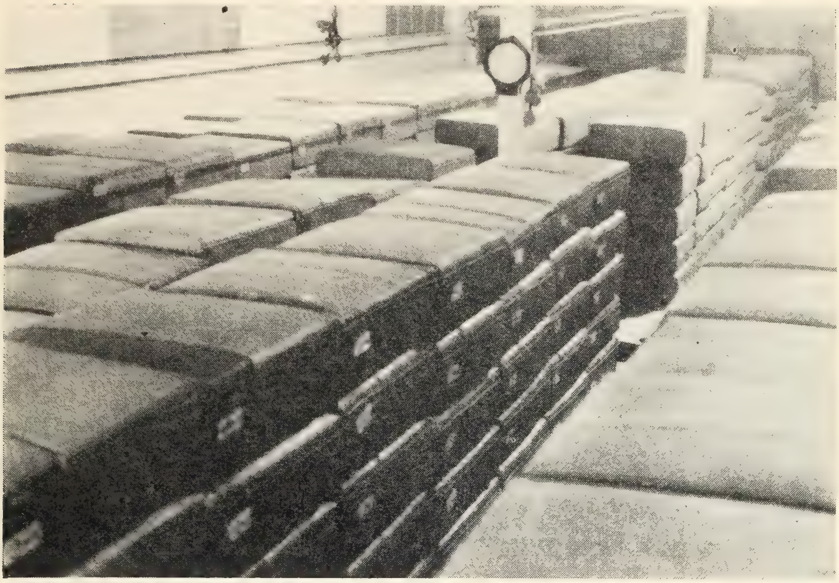

AMA 1297

FIGURE 25.—Sorting shade-grown wrapper tobacco at Hartford, Conn. The work is performed in air-conditioned, skylighted rooms, under close supervision.

The bale is usually enclosed in tough waxy paper for protection and to retain moisture. Outside of this is sewn a covering made from tobacco mats, an imported woven article made in the Orient from uniform narrow strips of native grass. This matting is stenciled with a number and the grade of tobacco in the bale. Some companies add the year of growth. The bales are then placed in tiers for storage (fig. 26). When they are to be shipped, some are covered with a heavy burlap and some are packed individually in lightweight wooden boxes weighing about 45 pounds each. Cartons have been used instead of boxes, but some carriers refuse to accept such packages because of the weight and value of the contents—frequently around $3 per pound net.

The moisture content at the time of baling ranges from 18 to 20 percent, and as some further fermentation takes place the bales are usually placed in a warm room for 3 or 4 weeks before they go into regular storage.



AMA 1298

FIGURE 26.—Shade-grown wrapper tobacco in bales. Since the tobacco goes through a further mulling process after baling, the temperature of the storage room is carefully regulated.

STATISTICS OF CIGAR TOBACCO

Tables 15 to 20 present statistics of (1) acreage, production, and value, and (2) supply and disappearance, of cigar tobacco arranged by types. In table 21 are compiled the export figures of cigar tobacco from the United States to the principal importing countries.

TABLE 15.—*Cigar-filler tobacco: Acreage, production, and price, 1909–40* [1]

PENNSYLVANIA SEEDLEAF, TYPE 41

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	42, 500	1, 311	55, 718	18. 0	10, 001
Average 1920–29	40, 020	1, 337	53, 452	13. 5	7, 234
1930	40, 900	980	40, 082	6. 4	2, 565
1931	40, 500	1, 350	54, 675	7. 4	4, 046
1932	41, 700	1, 100	45, 870	4. 7	2, 156
1933	22, 000	975	21, 450	5. 0	1, 072
1934	17, 700	1, 200	21, 240	9. 3	1, 975
1935	20, 500	1, 375	28, 188	11. 0	3, 101
1936	23, 000	1, 450	33, 350	11. 5	3, 835
1937	23, 500	1, 220	28, 670	10. 4	2, 982
1938	24, 000	1, 325	31, 800	13. 6	4, 325
1939	31, 500	1, 425	44, 888	12. 9	5, 791
1940 [2]	33, 400	1, 470	49, 098	13. 3	6, 530

See footnotes at end of table.

TABLE 15.—*Cigar-filler tobacco: Acreage, production, and price, 1909–40*[1]—Continued

MIAMI VALLEY, TYPES 42–44

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1909	71,581	763	54,587	9.5	5,186
Average 1910–19	57,570	908	52,300	12.5	6,522
Average 1920–29	29,940	829	24,970	13.4	3,298
1930	31,200	1,050	32,762	10.1	3,307
1931	33,800	998	33,740	5.5	1,855
1932	30,300	800	24,225	4.0	967
1933	14,100	899	12,680	6.0	760
1934	13,600	1,200	16,320	8.6	1,404
1935	16,200	1,075	17,415	7.2	1,254
1936	14,000	940	13,160	9.5	1,250
1937	15,500	975	15,112	8.8	1,330
1938	13,600	900	12,240	8.8	1,077
1939	16,500	1,000	16,500	8.4	1,386
1940 [2]	16,200	980	15,876	7.6	1,207

GEORGIA AND FLORIDA SUN-GROWN, TYPE 45

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1919	2,200	917	2,017	20.4	412
Average 1920–29	1,660	996	2,631	18.2	299
1930	1,300	1,151	1,496	20.0	299
1931	1,200	882	1,058	15.0	158
1932	300	633	190	10.0	19
1933	100	825	82	11.0	9
1934	500	1,180	590	12.0	71
1935	1,100	1,082	1,190	13.5	161
1936 [3]	800	950	760	13.5	102
1937 [3]	1,100	1,120	1,232	13.5	166
1938 [3]	1,200	1,283	1,540	13.5	208
1939 [3]	1,400	960	1,344	13.3	179
1940 [2]	1,400	1,257	1,760	14.9	262

[1] For statistics on type 46, Puerto Rican filler, see U. S. Dept. Agr. Cir. 519 (*6*).

[2] Preliminary.

[3] The years 1936 to 1939 represent the period during which occurred the transition from type 45 (filler) to type 56 (binder). The following figures represent the approximate yearly distribution of acreage and production between the two types:

Year	Type 45, filler		Type 56, binder	
	Acreage	Production	Acreage	Production
	Acres	*Pounds*	*Acres*	*Pounds*
1936	600	560,000	200	200,000
1937	700	804,000	400	428,000
1938	700	940,000	500	600,000
1939	700	700,000	700	644,000
1940	0	0	1,400	1,760,000

Manufacturers' and dealers' stocks still show all tobacco from this district as type 45.

TABLE 16.—*Cigar-binder tobacco: Acreage, production, and price, 1909–40*

CONNECTICUT BROADLEAF, TYPE 51

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	17,600	1,600	28,160	44.8	12,621
Average 1920–29	14,530	1,402	20,487	25.8	5,286
1930	12,300	1,550	19,070	25.1	4,786
1931	13,400	1,500	20,100	14.0	2,814
1932	9,700	1,580	15,326	12.0	1,839
1933	7,400	1,501	11,106	13.0	1,444
1934	5,300	1,700	9,010	17.0	1,532
1935	6,300	1,700	10,710	18.5	1,981
1936	7,500	1,700	12,751	20.5	2,614
1937	8,900	1,540	13,708	15.5	2,125
1938	8,100	1,130	[1] 9,155	15.0	800
1939	7,900	1,620	12,798	22.0	2,816
1940 [2]	7,700	1,541	11,864	21.0	2,492

See footnotes at end of table.

TABLE 16.—*Cigar-binder tobacco: Acreage, production, and price, 1909–40*—Continued

CONNECTICUT HAVANA SEED, TYPE 52

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	13,400	1,585	21,245	31.0	6,583
Average 1920–29	13,420	1,390	18,577	26.2	4,859
1930	12,400	1,515	18,781	21.9	4,107
1931	11,600	1,427	16,554	13.0	2,152
1932	11,200	1,564	17,519	8.5	1,486
1933	6,700	1,492	9,994	9.7	970
1934	3,600	1,650	5,940	15.6	927
1935	4,100	1,634	6,700	17.4	1,165
1936	4,900	1,689	8,276	17.9	1,478
1937	7,000	1,544	10,806	16.4	1,767
1938	7,300	1,153	[1] 8,417	15.0	1,030
1939	8,100	1,678	13,593	24.0	3,262
1940 [2]	9,400	1,678	15,773	21.9	3,453

NEW YORK AND PENNSYLVANIA HAVANA SEED, TYPE 53 [3]

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1909	4,100	1,304	5,345	8.0	428
Average 1910–19	3,750	1,241	4,641	14.1	624
Average 1920–29	2,380	1,186	2,817	20.7	601
1930	1,600	979	1,566	11.7	184
1931	2,000	1,316	2,632	9.5	250
1932	2,400	1,024	2,458	3.6	88
1933	800	1,280	1,024	4.2	43
1934	300	1,417	425	8.2	35
1935	500	1,380	690	10.3	71
1936	800	1,369	1,095	10.6	116
1937	1,100	1,335	1,468	10.1	148
1938	1,400	1,421	1,990	11.0	219
1939	1,500	1,386	2,079	10.9	226
1940 [2]	1,700	1,319	2,242	12.0	268

SOUTHERN WISCONSIN, TYPE 54

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1919	28,200	1,289	36,345	20.0	7,286
Average 1920–29	23,010	1,210	27,936	11.6	3,186
1930	24,800	1,281	31,769	9.8	3,113
1931	24,000	1,290	30,960	5.6	1,734
1932	19,200	1,300	24,960	4.5	1,123
1933	8,400	1,250	10,500	5.5	578
1934	5,200	1,380	7,176	6.0	431
1935	6,000	1,400	8,400	6.6	554
1936	7,200	1,530	11,016	8.0	881
1937	11,000	1,320	14,520	10.5	1,525
1938	15,000	1,340	20,100	7.0	1,407
1939	13,000	1,440	18,720	10.8	2,022
1940 [2]	13,600	1,480	20,128	8.5	1,711

NORTHERN WISCONSIN, TYPE 55

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1919	16,800	1,225	20,580	26.0	5,351
Average 1920–29	15,440	1,145	17,672	15.1	2,668
1930	19,500	1,232	24,031	10.3	2,481
1931	17,900	1,119	20,025	5.1	1,030
1932	10,000	1,254	12,540	3.8	478
1933	4,500	1,216	5,472	4.8	260
1934	3,600	1,460	5,255	8.4	439
1935	5,200	1,318	6,855	7.1	484
1936	6,000	1,338	8,030	12.0	960
1937	7,800	1,416	11,042	12.3	1,353
1938	10,400	1,287	13,380	8.2	1,101
1939	9,900	1,454	14,391	13.8	1,979
1940 [2]	11,600	1,465	16,990	11.7	1,990

[1] Includes loss after harvest as a result of hurricane and flood estimated as follows: Broadleaf (type 51), 3,820,000 pounds; and Havana Seed (type 52), 1,547,000 pounds. Price and value apply only to the marketable portion of the crop.

[2] Preliminary.

[3] Prior to 1919, New York only.

TABLE 17.—*Cigar-wrapper tobacco: Acreage, production, and price, 1919–40*

CONNECTICUT SHADE-GROWN, TYPE 61

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	4,900	1,178	5,772	105.0	6,060
Average 1920–29	7,060	994	7,036	92.2	6,345
1930	7,400	1,040	7,696	73.0	5,618
1931	5,800	880	5,104	82.0	4,186
1932	4,500	1,016	4,574	59.0	2,699
1933	4,700	1,032	4,850	64.0	3,104
1934	5,000	1,100	5,500	80.0	4,400
1935	5,700	1,004	5,725	85.0	4,866
1936	6,400	1,055	6,753	88.0	5,942
1937	7,200	832	5,988	98.0	5,869
1938	7,300	745	[1] 5,437	60.0	2,910
1939	7,700	1,120	8,624	66.0	5,692
1940 [2]	6,400	862	5,519	78.0	4,305

GEORGIA AND FLORIDA SHADE-GROWN, TYPE 62

Year	Acreage	Yield per acre	Production	Price per pound	Crop value
1919	3,600	1,114	4,012	65.0	2,608
Average 1920–29	3,070	1,116	3,431	59.3	2,014
1930	3,400	1,115	3,790	60.0	2,274
1931	2,900	1,069	3,101	30.0	931
1932	2,400	1,004	2,410	35.0	844
1933	1,300	931	1,210	32.0	387
1934	2,000	890	1,780	60.0	1,068
1935	2,300	900	2,070	65.0	1,345
1936	2,600	1,025	2,665	69.0	1,838
1937	2,800	900	2,520	69.0	1,739
1938	3,200	1,122	3,592	71.5	2,569
1939	3,200	860	2,752	73.0	2,009
1940 [2]	3,700	1,020	3,775	75.0	2,831

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[1] Includes loss after harvest as a result of hurricane and flood estimated at 588,000 pounds. Price and value apply only to the marketable portion of the crop.

[2] Preliminary.

TABLE 18.—*Cigar-filler tobacco: Production, stocks, and disappearance, 1912 and 1919–40*

PENNSYLVANIA SEEDLEAF, TYPE 41 [1]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1919	55.7	105.0	160.7	59.8
Average 1920–29	53.5	107.5	161.0	54.3
1930	40.1	92.0	132.1	45.6
1931	54.7	86.5	141.2	18.3
1932	45.9	122.9	168.8	56.3
1933	21.4	112.5	133.9	29.9
1934	21.2	104.0	125.2	25.3
1935	28.2	99.9	128.1	31.5
1936	33.4	96.6	130.0	28.1
1937	28.7	101.9	130.6	30.9
1938	31.8	99.7	131.5	34.0
1939	44.9	97.5	142.4	36.4
1940	[2] 49.1	106.0	155.1	------------

See footnotes at end of table.

TABLE 18.—*Cigar-filler tobacco: Production, stocks, and disappearance, 1912 and 1919–40*—Continued

MIAMI VALLEY, TYPES 42–44

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1912	53.5	101.9	155.4	59.6
1919	39.0	78.9	117.9	27.0
Average 1920–29	25.0	74.8	99.8	29.8
1930	32.8	42.2	75.0	13.1
1931	33.7	61.9	95.6	29.6
1932	24.2	66.0	90.2	27.8
1933	12.7	62.4	75.1	11.7
1934	16.3	63.4	79.7	13.9
1935	17.4	65.8	83.2	23.0
1936	13.2	60.2	73.4	21.7
1937	15.1	51.7	66.8	18.8
1938	12.2	48.0	60.2	18.2
1939	16.5	42.0	58.5	15.9
1940	[2] 15.9	42.6	58.5	------------

GEORGIA AND FLORIDA SUN-GROWN, TYPE 45 [3]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
1929	1.9	1.2	3.1	1.1
1930	1.5	2.0	3.5	1.2
1931	1.1	2.3	3.4	.2
1932	.2	3.2	3.4	.7
1933	.1	2.7	2.8	1.0
1934	.6	1.8	2.4	1.2
1935	1.2	1.2	2.4	.2
1936	.8	2.2	3.0	1.5
1937	1.2	1.5	2.7	1.1
1938	1.5	1.6	3.1	.6
1939	1.3	2.5	3.8	1.5
1940	[2] 1.8	2.3	4.1	------------

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[1] Prior to 1929, stocks reports issued by the Bureau of the Census included "Pennsylvania" and "New York." Pennsylvania is believed to refer entirely to type 41. New York is believed to include type 53 produced in that State and that produced over the line in Pennsylvania.

[2] Preliminary.

[3] Prior to 1929, stocks of types 45 and 62 were not reported separately. Stocks as of July 1, and disappearance beginning July 1.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 19.—*Cigar-binder tobacco: Production, stocks, and disappearance, 1919–40*

CONNECTICUT BROADLEAF, TYPE 51 [1]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1919	28.2	26.0	54.2	24.4
Average 1920–29	20.5	38.4	58.9	20.7
1930	19.1	27.3	46.4	13.3
1931	20.1	33.1	53.2	12.9
1932	15.3	40.3	55.6	14.6
1933	11.1	41.0	52.1	12.3
1934	9.0	39.8	48.8	13.3
1935	10.7	35.5	46.2	12.0
1936	12.8	34.2	47.0	14.1
1937	13.7	32.9	46.6	11.8
1938	[1] 9.2	34.8	44.0	16.2
1939	12.8	27.8	40.6	13.1
1940	[2] 11.9	27.5	39.4	------------

See footnotes at end of table.

TABLE 19.—*Cigar-binder tobacco: Production, stocks, and disappearance, 1919–40*—Continued

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
CONNECTICUT HAVANA SEED, TYPE 52 [3]				
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1919	23.9	25.6	49.5	18.6
Average 1920–29	19.9	41.8	61.7	19.3
1930	18.8	36.4	55.2	18.2
1931	16.6	37.0	53.6	12.7
1932	17.5	40.9	58.4	19.8
1933	10.0	38.6	48.6	10.8
1934	5.9	37.8	43.7	12.9
1935	6.7	30.8	37.5	11.4
1936	8.3	26.1	34.4	10.7
1937	10.8	23.7	34.5	8.7
1938	[1] 8.4	25.8	34.2	11.3
1939	13.6	22.9	36.5	12.0
1940	[2] 15.8	24.5	40.3	----------
NEW YORK AND PENNSYLVANIA HAVANA SEED, TYPE 53 [4]				
1919	4.1	2.7	6.8	4.0
Average 1920–29	2.8	3.9	6.7	2.8
1930	1.6	2.5	4.1	.6
1931	2.6	3.5	6.1	1.7
1932	2.5	4.4	6.9	2.6
1933	1.0	4.3	5.3	2.2
1934	.4	3.1	3.5	1.5
1935	.7	2.0	2.7	.7
1936	1.1	2.0	3.1	1.0
1937	1.5	2.1	3.6	1.5
1938	2.0	2.1	4.1	1.3
1939	2.1	2.8	4.9	1.7
1940	[2] 2.2	3.2	5.4	----------
SOUTHERM WISCONSIN, TYPE 54 [5]				
1929	29.7	56.3	86.0	29.0
1930	31.8	57.0	88.8	21.7
1931	31.0	67.1	98.1	17.3
1932	25.0	80.8	105.8	25.6
1933	10.5	80.2	90.7	9.4
1934	7.2	81.3	88.5	14.9
1935	8.4	73.6	82.0	20.6
1936	11.0	61.4	72.4	21.7
1937	14.5	50.7	65.2	19.7
1938	20.1	45.5	65.6	31.3
1939	18.7	34.3	53.0	9.4
1940	[2] 20.1	43.6	63.7	----------
NORTHERN WISCONSIN, TYPE 55 [5]				
1929	20.2	39.6	59.8	21.7
1930	24.0	38.1	62.1	12.8
1931	20.0	49.3	69.3	17.1
1932	12.5	52.2	64.7	9.6
1933	5.5	55.1	60.6	12.9
1934	5.3	47.7	53.0	11.5
1935	6.9	41.5	48.4	15.3
1936	8.0	33.1	41.1	13.2
1937	11.0	27.9	38.9	9.2
1938	13.4	29.7	43.1	14.4
1939	14.4	28.7	43.1	7.1
1940	[2] 17.0	36.0	53.0	----------

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[1] Includes loss after harvest as a result of hurricane and flood estimated as follows: Broadleaf (type 51), 3.8 million pounds; and Havana Seed (type 52), 1.5 million pounds.

[2] Preliminary.

[3] Includes primed Havana Seed, which has not been reported separately since 1929.

[4] Prior to 1929, stocks reports issued by the Bureau of the Census included "Pennsylvania" and "New York." Pennsylvania is believed to refer entirely to type 41. New York is believed to include type 53 produced in that State and that produced over the line in Pennsylvania.

[5] Prior to 1929, stocks of types 54 and 55 were not reported separately.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 20.—*Cigar-wrapper tobacco: Production, stocks, and disappearance, 1919–40*

CONNECTICUT SHADE-GROWN, TYPE 61

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1919	5.8	6.5	12.3	6.3
Average 1920–29	7.0	8.7	15.7	6.5
1930	7.7	11.7	19.4	6.9
1931	5.1	12.5	17.6	5.1
1932	4.6	12.5	17.1	4.8
1933	4.8	12.3	17.1	7.1
1934	5.5	10.0	15.5	6.8
1935	5.7	8.7	14.4	7.6
1936	6.8	6.8	13.6	6.7
1937	6.0	6.9	12.9	6.4
1938	[1] 5.4	6.5	11.9	4.2
1939	8.6	7.7	16.3	6.5
1940	[2] 5.5	9.8	15.3	

GEORGIA AND FLORIDA SHADE-GROWN, TYPE 62 [3]

Year	Production	Stocks Oct. 1 farm-sales weight	Total supply	Disappearance beginning Oct. 1
1929	4.4	4.1	8.5	3.9
1930	3.8	4.6	8.4	3.6
1931	3.1	4.8	7.9	3.7
1932	2.4	4.2	6.6	2.0
1933	1.2	4.6	5.8	2.3
1934	1.8	3.5	5.3	2.3
1935	2.1	3.0	5.1	2.4
1936	2.7	2.7	5.4	2.7
1937	2.5	2.7	5.2	2.5
1938	3.6	2.7	6.3	3.2
1939	2.8	3.1	5.9	2.8
1940	[2] 3.8	3.1	6.9	

[1] Includes loss after harvest as a result of hurricane and flood estimated at 0.6 million pounds.
[2] Preliminary.
[3] Prior to 1929, stocks of types 45 and 62 were not reported separately. Stocks as of July 1, and disappearance beginning July 1.

Stocks prior to Apr. 1, 1929, were compiled from reports of the Bureau of the Census.

TABLE 21.—*Exports of cigar-leaf tobacco from the United States to principal importing countries, 1923–39* [1]

Country to which exported	1923	Average 1924–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Netherlands	1,006	65	223	175	62	63	111	19	42
Canada	239	253	190	81	106	37	111	49	20
Philippine Islands	59	273	317	370	459	486	543	379	427
United Kingdom	13	44	100	49	38	129	437	25	0
France	0	[3] 693	1,316	0	0	0	0	698	0
Belgium	44	4	57	468	37	6	46	12	5
Other countries	121	72	90	74	47	9	38	[4] 1,735	73
Total	1,482	1,404	2,293	1,217	749	730	1,286	2,917	567
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Netherlands	67.9	4.6	9.7	14.4	8.3	8.6	8.6	.7	7.4
Canada	16.1	18.0	8.3	6.7	14.2	5.1	8.6	1.7	3.5
Philippine Islands	4.0	19.4	13.8	30.4	61.3	66.6	42.2	13.0	75.3
United Kingdom	.9	3.1	4.4	4.0	5.1	17.7	34.0	.9	.0
France	.0	49.4	57.4	.0	.0	.0	.0	23.9	.0
Belgium	3.0	.3	2.5	38.5	4.9	.8	3.6	.4	.9
Other countries	8.1	5.2	3.9	6.0	6.2	1.2	3.0	59.4	12.9

[1] The export statistics are on the basis of a crop year beginning October.
[2] Preliminary.
[3] This figure represents a 5-year average based on 3,465,000 pounds exported in the year 1928. There were no exports in the other years of the period 1924–28.
[4] Includes 1,682,000 pounds to Germany.

Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.

MISCELLANEOUS TYPES

The "miscellaneous" group includes Eastern Ohio Export, Perique, and Rustica. The first-named is so closely associated with the Southern Maryland type that a description of it was included with that type. (See p. 29).

PERIQUE, TYPE 72

The Perique tobacco district, so far as its size and output are concerned, does not rank high in importance, but the product is distinctive and the processing by which its characteristics are achieved is unique.

Perique tobacco, used in small quantities in the manufacture of fancy smoking tobacco, is grown on the more elevated and drier portions of the rich Mississippi alluvial soil in St. James Parish, La. As shown by table 22, it has never been produced on a large scale. In 1934 and 1935 production was almost discontinued but present information indicates that it has since increased to around 700,000 pounds or more on the stemmed basis of commerce. Normally from one-fourth to one-third of the crop is exported, mostly to England, Germany, and Norway.

Planting occurs in March, and harvesting in July or early August. Plants are set 2 feet apart in rows spaced 4 feet. The tobacco has somewhat the appearance of Burley, both in the field and after curing in the barn, up to the time of processing.

The entire plant is cut and is hung from wires stretched across the barn. Each plant is suspended separately by means of a nail driven into the butt of the stalk.

TABLE 22.—*Perique tobacco: Acreage, production, and price, 1919–33* [1]

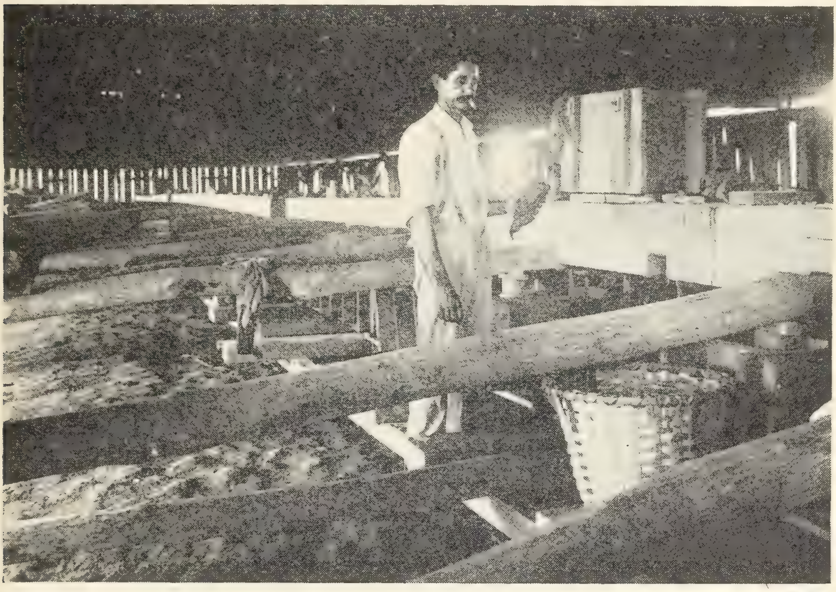
Year	Acreage	Yield per acre	Production	Price per pound	Crop value
	Acres	*Pounds*	*1,000 pounds*	*Cents*	*1,000 dollars*
1919	800	435	348	65.0	226
Average 1920–29	590	432	260	48.5	132
1930	500	445	222	30.0	67
1931	400	450	180	26.0	47
1932	200	525	105	27.5	29
1933	100	425	42	23.0	10

[1] Estimates were discontinued in 1934. The yield, production, and price statistics represent the stemmed, packing weight of the tobacco.

In about 8 days, when most of the leaves are sufficiently cured to strip and while the stems are still soft, the stems are removed and the strips are made up into twists about 1 foot long, weighing approximately 1 pound each. Formerly about 50 of these twists in very soft order were packed in strong pressing boxes 11 inches square and 16 inches high. The tobacco was then placed under very high pressure by means of lever presses (fig. 27). Heavy weights, usually of stone, were suspended at the long end of the lever in order to give a steady, uniform pressure, the object being to cause the juices to ooze from the leaves.

The boxes were opened every day or two for 2 weeks, and the twists were loosened to allow the air and moisture to reach all parts so that the juices would be reabsorbed uniformly throughout the twists. This procedure, with some modification, was continued for several months, during which time the blackened, gummy tobacco mellowed and aged and acquired the aromatic fragrance peculiar to Perique.

The present practice in handling Perique tobacco is to pack the twists or torquettes immediately into very heavy white oak casks each bound with 10 steel hoops. The tobacco is packed in very high order, and the casks are filled gradually and under constant pressure. In rows of 10 or more they are placed within frames of massive timbers against which heavy jackscrews, similar to those used in construction work, are used to supply the required pressure. At first the casks are only partly filled with tobacco and the jacks are turned down until the juice is pressed out of the leaves. More tobacco is added and the pressure is again applied and this process is repeated until the casks are filled. Heavy pressure is maintained, however, until the tobacco is sold, which may not be for a year or more. During that period the tobacco ferments in its own juice. The result is a rich black tobacco, very strong and possessing a heavy, sweet and distinctive aroma. A cask or barrel of tobacco weighs approximately 400 pounds.



BPI 646

FIGURE 27.—The old way of applying pressure to the twists or "torquettes" of Perique tobacco during the pressing process. Although a few of these old lever presses are still in use, the modern practice is to use heavy jacks within a framework of massive beams, and heavy oak casks are used instead of boxes.

Because of the equipment necessary for this treatment, the growers customarily deliver their tobacco, stemmed and made into twists, to a dealer's packing plant for processing, although small quantities are put up by a few growers for their own use, utilizing the old box method. Two dealers control the Perique industry.

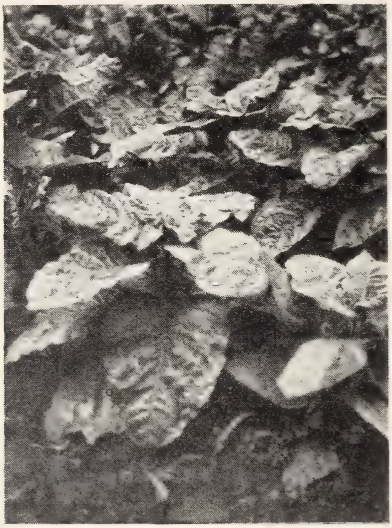
As a result of the specialized processing to which Perique tobacco is subjected the dealers and growers are classified by the Bureau of Internal Revenue as quasi tobacco manufacturers, a term applied to a class of manufacturers of tobacco whose handling of tobacco material embraces one or more elements of manufacturing but whose product is not taxable in its existing form. Perique tobacco, however, when prepared for sale to consumers direct is taxable.

It is not certain that this peculiar method of curing tobacco was originated in its essentials by the Acadians, as some think. The natives of some Central American and South American countries have for years put up tobacco in twists after subjecting it to heavy pressure by windlass or other devices, and certain African tribes practice a method of curing analogous to that used in Louisiana. Many European manufacturers put up coil tobacco, blackened by heavy pressure and absorbed juices.

RUSTICA

Rustica tobacco, *Nicotiana rustica,* is not used for human consumption in this country but only for manufacture into nicotine sulfate, insecticides, etc. Production is so limited and scattering that no statistics are available. In some foreign countries rustica is used extensively for smoking purposes. That produced in the United States is high in nicotine content, coarse, and strong. Since the annual requirements of raw material for the manufacture of nicotine sulfate are obtainable from tobacco stems and low grades of some of the dark air-cured and fire-cured types, the growing of rustica for that purpose has not been found generally profitable.

Figure 28 shows the appearance of this tobacco in the field.



AMA 2210–A

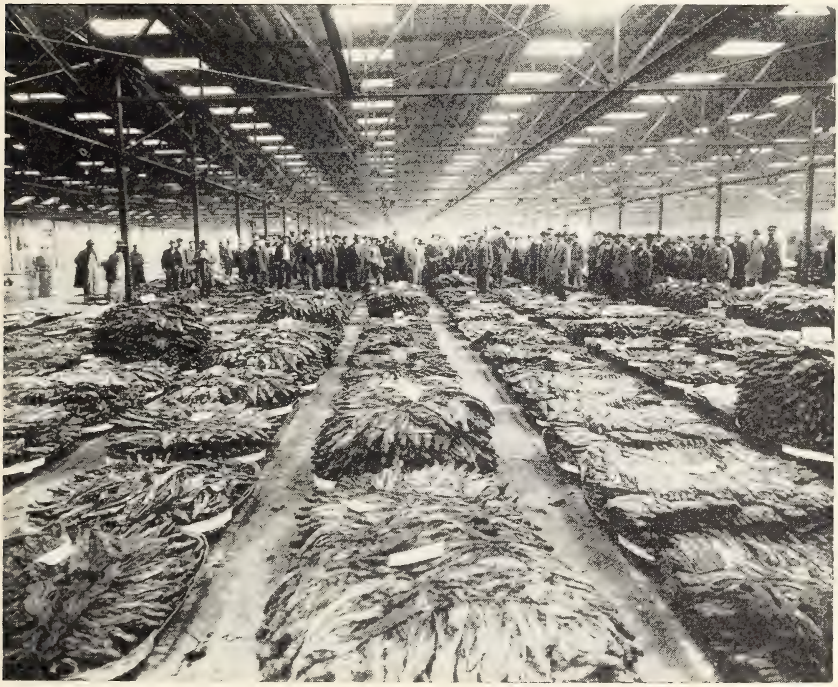
FIGURE 28.—*Nicotiana rustica* is produced in small quantities in Pennsylvania and elsewhere for the manufacture of nicotine sulfate, insect powders, etc. The plants are relatively small, and the leaves are rough and crinkled. The nicotine content is considerably higher than that of *N. tabacum.*

TOBACCO MARKETING METHODS

Methods by which growers dispose of their tobacco vary widely. Briefly summarized, they include: (1) The auction, or loose-leaf floor system; (2) the hogshead market; (3) country sales; and (4) cooperative marketing.

THE AUCTION MARKET

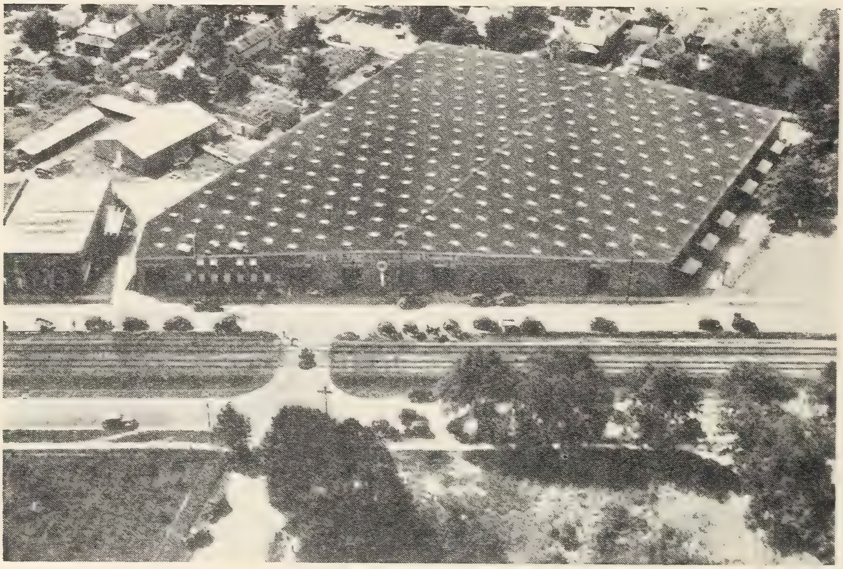
The auction, or loose-leaf market, is now the prevailing system of selling tobacco in all tobacco-growing territory from southern Ohio and Indiana southward, in which are included all States south of the Ohio and Potomac Rivers in which tobacco is grown on a commercial scale (except for the cigar-leaf districts of Florida and Georgia). Reduced to its simplest terms, an auction floor is a place where growers may deliver their tobacco and have it auctioned off to the highest bidder, the bidders being buyers for manufacturers, dealers, exporters, or speculators. The system is of vast proportions, represents a large total outlay of capital and the employment of large numbers of people, and provides the means for selling more than a billion pounds of tobacco annually during the months from August to April. (For list of auction markets, see appendix.)



AMA 221!

FIGURE 29.—View in a large modern auction warehouse showing large number of skylights. The glass used is finely ribbed to give a soft and diffused light. For flue-cured and light air-cured types a large amount of light is provided. For some of the dark types, especially fire-cured, the volume of light admitted is, in comparison, greatly reduced.

The requirements of an auction warehouse are ample floor space on a single floor, and uniformity of lighting (fig. 29). In meeting these primary requirements a type of architecture has been evolved which is so distinctive that an auction warehouse can be recognized almost as far as it can be seen; the low roof, studded with skylights, characterizes it at once (fig. 30). Within is a spacious floor of planking or concrete, with a driveway down one side or possibly both sides, usually 3 or 3½ feet below the floor level, to facilitate unloading. At the front end is the office, and usually about halfway down one side are the scales. There must be a drive on one or both sides where farmers may unload their tobacco and arrange it in neat piles on the trays, or baskets as they are known.



AMA 1450

FIGURE 30.—Airplane photograph of typical auction warehouse located at Lake City, S. C., showing the skylights for obtaining uniform light on tobacco offered for sale. Special ribbed glass is used for diffusing the light. Five drive-ins may be seen at the front of the warehouse. On the right or north side may be seen shelters under which trucks are loaded with tobacco after the sale, for transporting it to the different company handling plants. These arrangements are fairly typical of auction warehouses or sales floors throughout the Southern States where tobacco is sold at auction. This warehouse has a floor space of approximately 90,000 square feet, and a capacity of approximately 750,000 pounds of tobacco.

Farmers deliver their tobacco in wagons or trucks and build it up in orderly piles on the baskets. It is trucked first to the scales where a ticket is prepared showing the grower's name, the number of pounds, and the serial number of the lot, and containing spaces for indicating later the name of the buyer, his private grade mark, and the price per pound. The tobacco is next trucked to its place on the warehouse floor where it is arranged in long rows (fig. 31).

The sales are conducted rapidly. In the flue-cured and Burley districts the sale seldom is less than 360 baskets per hour, and rates of 400 to 600 per hour are not uncommon. In the fire-cured and dark air-cured districts a slower rate of selling prevails.

The number of warehouses in a market varies. It is unusual to find a market so small as to have only one; the number on some of the larger markets runs as high as 12 to 15. Lexington, Ky., has 23 warehouses. On the more important markets, also, the warehouses contain more floor space.

The auction scene varies but little, except as relative scarcity or abundance of tobacco makes bidding more or less spirited. The sales group (fig. 32) consists of an auctioneer, the warehouseman or his representative, the buyers who may number from three or four to a dozen, the clerks who follow and record the sales, and usually a few farmers and hangers-on. The opening bid is made by the warehouseman or his representative, and since it indicates the warehouseman's appraisal of the tobacco it has an important effect on the price paid. If, as sometimes happens, the opening bid is much too low the suspicion may be created that the tobacco is of inferior quality, and in the subsequent bidding the price may fail to reach a proper figure. On the other hand, however, the buyers sometimes perceive the warehouseman's error and if the tobacco is particularly desirable, quickly run the price up to a fair level. Sometimes the first bid is too high and the auctioneer finds it necessary to drop the price back until there is a taker.

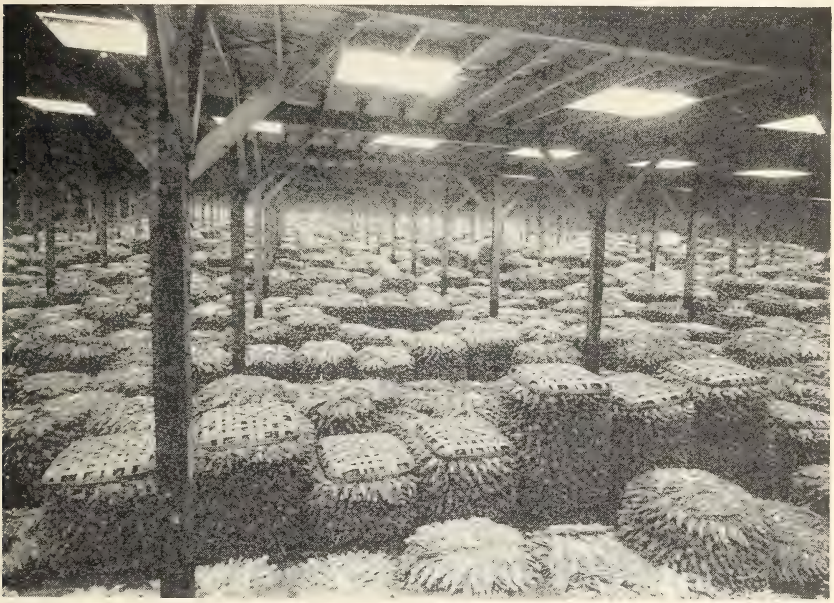
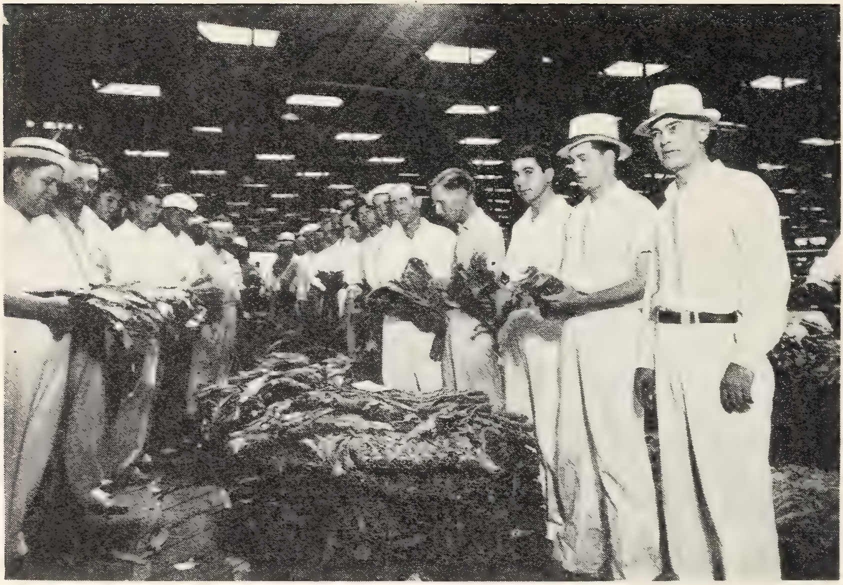

AMA 1480

FIGURE 31.—Burley tobacco at Horse Cave, Ky., ready for the auction sale. Larger piles are made of Burley than of most other types.

Bids are usually made in quarter-dollar jumps until the price per hundred pounds reaches $15, although in some districts 10-cent jump bids are allowed when the price is very low. Bids of from $15 to $25 are raised by half dollars, and thereafter by dollars. The actual breaking points between the quarter, half, and dollar bids vary in different districts and markets. Each market establishes its own rules as to bids and rate of selling. The existence of rules as to bids promotes rapid sales, since a very slight sign such as a quick glance, a wink, etc., may be interpreted as a bid. The auctioneer accepts such a signal as a bid and runs the price up at once.

In small markets of two or three warehouses only one set of buyers is needed. The same buyers proceed from one floor to the next, and the warehouses rotate from day to day in having the first sale. Usually signs are hung out, "first sale," or "second sale." In larger markets, two or more sets of buyers operate simultaneously, and it is not uncommon for two sales to be in progress on the same floor.



AMA 1462

FIGURE 32.—Typical scene of tobacco auction sale. The auctioneer heads the line on the right. Next in line is the sales starter who makes the opening bid. The group also includes other necessary warehouse employees and the tobacco buyers. Most of the latter are in the line on the left.

The machinery of a tobacco market is well organized for rapid handling of the tobacco and quick payment to the growers. During rush times the wagons or trucks of farmers form long lines of approach to the warehouses, and are unloaded from long before daylight until late at night. In order to accommodate the stream of deliveries, tobacco must be removed from the floor as rapidly as sold to make way for new deliveries. No sooner is a sale under way, therefore, than hurrying truckers move the tobacco to side doors where it is loaded on trucks for delivery to redriers or to the pack houses of the different companies. Lots which have been bought in by the "house," or the sale of which has been rejected by the grower, are not removed. Such lots are usually "dressed up" and put back in line for resale.

A grower has the right of rejecting the bid. He exercises this right by turning his ticket—folding it with a crease, tearing off a portion, or otherwise mutilating it.

Bringing up the rear of every sale are a bookman and a clip man. The former draws off the information necessary to the accounting records of the warehouse. The latter, armed with a pad of forms on a clip board, prepares a statement or "farmer's bill" covering the lot or lots sold by each grower. Each computes the total value based on the number of pounds sold, multiplied by the selling price of the respective lots. Their computations must agree. The clip man then hands the statement to a bill boy by whom it is presented to the office where the warehouse charges are computed and deducted. If desired, the farmer may immediately obtain a check for the net proceeds of the sale.

The warehouseman's business is to provide the facilities by which the producer's commodity may be offered for sale. In doing so he undertakes heavy expenditures in the form of capital investment and salaries. It is true that "the house" frequently bids in a basket of tobacco to avoid having a dissatisfied grower-customer and later sells it for its own account. Aside from such transactions, which are not always conducted at a profit, the warehouseman's revenue is derived from warehouse and selling charges, which vary in different States. In North Carolina, for illustration, the charges are regulated by law and are as follows: Weighing fee, 10 cents per hundred pounds; auction fee, 15 cents per lot up to 100 pounds and 25 cents per lot above 100 pounds; commission, 2½ percent.

Payment to the grower is made by the warehouseman, who issues a check against his own account. Settlements between the warehouseman and the buyers or the companies they represent are usually made daily.

The above represents the usual and proper relationship of the warehouseman to the selling and buying interests which meet on his floor. Occasionally, however, the warehouseman is associated more or less secretly with speculative buyers who seize opportunities to buy in lots at less than their true value, sharing in the profits of later resale. Just how widespread this practice is cannot be said, but to the extent that it does exist it is vicious and should be prohibited. The effect is to give the warehouseman an interest in farmers' tobacco being sold at less than its true value, and is in direct violation of the relationship of principal and agent existing between the farmer and the warehouseman to whom he entrusts his tobacco.

ADVANTAGES AND DISADVANTAGES OF THE AUCTION SYSTEM

Numerous advantages and disadvantages pertain to the auction warehouse system of marketing, viewed from the standpoint of the tobacco grower. Chief among the advantages are the rapidity with which a crop, large or small, can be disposed of, and the promptness with which the grower can realize on it. Tobacco of almost any condition or quality can be disposed of, and, viewed in the aggregate, prices respond with a considerable degree of nicety to the prevailing conditions of world supply. A study of average prices shows a strong correlation between broad movements of prices and such factors as existing supplies, export demand, manufacturing requirements, and quality, which collectively constitute supply and demand.

The disadvantages of the system relate to those phases of auction selling which subject the individual grower to undue hazards in disposing of his crop. Notwithstanding the stability always inherent in averages and the degree with which average prices respond to the conditions of supply and demand, the very conditions surrounding the sale result in some lots being sold perhaps for more than their worth, and others at much less than their worth. Such instances may be traced to a variety of causes which are not in themselves fundamental but the net results of which point to a weakness in the auction marketing system.

Among the causes that may result in tobacco being sold below its proper average, or the current average for tobacco of the same grade or quality, may be cited the following:

VARIABLE LIGHT

By the use of large numbers of skylights the effort is made to achieve a uniformly diffused light throughout the warehouse, but this result is only partly obtained. Beginning at the center of the floor the lighting effects vary as the side walls are approached and from one side of the warehouse to the other, because of the varying angles at which the light strikes the skylights on opposite slopes of the roof, and the change from forenoon to afternoon sun. A variation in light may occur from one pile to the next, because of nearness of roof supports, skylights, etc. (fig. 29). Even more important is the change from a bright to a cloudy day. These variations in light may be relatively imperceptible, and yet they are seldom without importance in view of the part that fine gradations in color sometimes play in influencing the buyers' judgment. Tobacco that in one light may appear dull and lifeless may present an opposite appearance under more favorable conditions.

WEATHER

Tobacco is remarkably responsive to weather conditions. Exposed to dry atmosphere it quickly becomes so brittle as to break up with handling. With a change to humid weather the leaf becomes soft, pliable, and elastic. If the weather turns cold, the tobacco that was soft and pliable quickly becomes hard and rustles to the touch unless it is in very high order. Buyers are accustomed to these changes in weather and are trained to allow for the resulting changes in the physical condition of the tobacco, yet errors in judgment are unavoidable. The changes in physical condition effect changes in the appearance of the tobacco with respect to such factors as color, luster, and "life," and errors in appraisal may therefore arise with reference to the texture or other characteristics appraised by the sense of touch, as well as those appraised by the eye.

RAPIDITY OF SALES

Rapidity of sales causes several kinds of error. When from 350 to 600 or more lots are sold in an hour the number of seconds devoted to a given lot is small, and the conditions are such that not all buyers have ready access to the tobacco. Buyers usually pull several hands of tobacco from the lot at a time, hold it in different angles to the light, smell it for mold, test it by touch for body or thickness, gum, and stretch. Necessarily some buyers have better access to the lot than others. Not all buyers are on the lookout for the same grades of tobacco. The lot being sold may be of excellent quality for certain purposes but not of the character desired by the buyers closest to it though very much desired by others buyers down the line. If, by reason of his inability to make a close examination of the tobacco being sold, a buyer fails to recognize its true character and value, then no criticism attaches to him if his bid is needlessly low, but a severe loss may have been inflicted upon the grower.

Similar results may come from trivial things. Men in the tobacco trade have remarked that a water boy may cause one or two important buyers to turn from the sale momentarily, and in that short interval some farmer's tobacco may be knocked down for much less than its real value.

In justice to the buyers it should be said that many of these variations in price are inadvertent. Many times when their attention is called, after the sale, to what was manifestly an error in buying, resulting in an unduly low price, they voluntarily raise the price. On every market, however, there are speculative buyers who live by purchasing occasional lots that are underpriced through errors of judgment on the part of the larger buyers, and reselling them.

That such errors occur and are fairly numerous is evidenced on every market by the number of growers who reject a sale, put the tobacco back in line, and resell at a higher price. Instances of the same tobacco sold at two, three, or even four times its first price are common and are striking evidence that undue hazards beset the tobacco grower in marketing his crop. (See also Tobacco Inspection and Market News, p. 68.)

On the other hand it must be said that frequently farmers reject sales in the mistaken belief that the price is below the market for the grade involved. Often the resale price is lower than that offered on the first sale. It is generally true that when the prevailing market average is reasonably satisfactory to growers—high enough, that is, to encourage equal or increased acreage the following season—growers will accept without complaint an offer on a particular lot that is in line or is believed to be in line with the average price paid for other tobacco of the same grade. For example, assuming a general average for all grades of type 11, old-belt flue-cured tobacco, of 18 cents per pound, a farmer may deliver some tobacco of low grade that sells for only 10 cents per pound. If he feels that 10 cents is about the average price paid for other tobacco of the same grade, he is much less likely to complain than if he feels that his tobacco is better than the general run of 10-cent tobacco. But until recent years growers have not had the opportunity to obtain an authentic, unbiased determination of grade, or specific information as to ruling prices for the various grades. This consideration, together with the hazards of tobacco marketing already alluded to, led to the development of a new phase in auction-warehouse marketing, namely, a governmental tobacco inspection and price-reporting service.

Among the disadvantages of the auction system of marketing are the heavy buying expenses entailed. The larger manufacturers, in particular, must maintain extensive corps of buyers and other employees in the field during the marketing season. There are approximately 75 auction markets for flue-cured tobacco alone. Those in the extreme southern end of the belt open first and have closed by the time markets open in the northern end of the belt. Nevertheless, during the major portion of the marketing season from 50 to 58 markets are in operation simultaneously in the flue-cured districts alone, with from 1 to 5 sets of buyers on each. As a rule the larger buying interests are represented in each such set of buyers. On each market, also, they have a bookkeeper and a stockman to handle the accounts and take charge of the tobacco. Each company has its circuit riders, scattered throughout the territory, who supervise the buyers. These items of expense together with the capital and operating costs of a multitude of auction warehouses undoubtedly comprise an impressive total overhead expense in the marketing of tobacco.

Statistics for an accurate analysis of buying costs under the auction marketing system are not available, but the conclusion that the costs are relatively high seems justified. The large number of small markets, which during much of the season operate for only a portion of the day, gives weight to this conclusion. Under such conditions the salaries and expenses of buyers represent a mounting bill of expense that may be disproportionate to the volume of tobacco purchased.

This leads to the consideration of another aspect of the auction market. To reduce buying expenses it is a common practice for companies to place buying orders. This is more especially true on the smaller markets. Thus a company, instead of incurring the expense of maintaining its own buyer on a certain market, places a buying order with a leaf dealer who has a buyer at that market. This buyer bids not only on behalf of his own employer but for possibly half a dozen other companies.

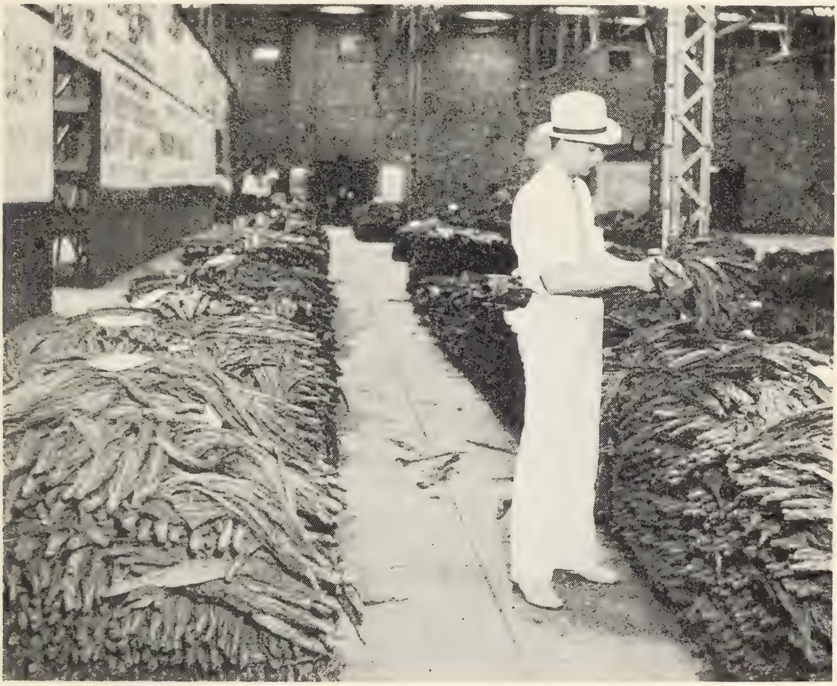
Were it not for multiple buying orders it is probable that many of the smaller markets would cease to operate and the existing trend toward elimination of small markets would become more pronounced. Viewed alone, however, multiple buying may become an abuse which is hurtful to the interests of the growers by reason of the fact that competition in buying is diminished.

TOBACCO INSPECTION AND MARKET NEWS

As discussed under Rapidity of Sales, p. 66, the conditions under which tobacco is sold at auction result in many lots being sold at less than their true value as judged by current grade prices. Often the grower is able to determine this for himself and reject the sale. Other instances occur in which the grower is mistaken in his belief that the price received is too low. In the majority of instances where tobacco is undersold, the grower is unable to determine the fact and the sale goes unchallenged. This difficulty arises from the technical considerations that enter into the judgment of the quality of tobacco, and the expert knowledge of tobacco required.

In recognition of this inherent weakness in the tobacco-auction marketing system, the Congress enacted the Tobacco Inspection Act, approved August 23, 1935. This act provides the means by which auction markets may be designated by the Secretary of Agriculture for mandatory inspection service. The service thus provided consists, first, of an inspection of each lot of tobacco on the warehouse floor to determine its grade according to United States standards, (fig.33) and second, the distribution among the owners of the tobacco of daily price reports showing the current average price for each grade. The result of the inspection is to inform the grower the true grade of his tobacco, and the price report tells him the approximate value of that grade.

The inspectors are employees of the Agricultural Marketing Administration of the United States Department of Agriculture and have been especially trained. The inspections are made before the tobacco is sold and the appropriate grade symbol is entered on the basket or lot ticket. In view of the large revenue which the Government derives annually from excise taxes on tobacco products, provision was made in the act that inspection service on designated markets should be without charge.



AMA 2212

FIGURE 33.—A Federal tobacco inspector examining fire-cured tobacco on warehouse floor at Clarksville, Tenn.

Up to December 1, 1941, 85 auction markets had been designated under the act, including one which no longer operates. These represent approximately 61 percent of the total number of markets where tobacco is sold at auction.

CHANNELS OF TRADE

Fully 90 percent of the tobacco produced in the United States is sold at auction. The buyers who compete on the auction markets for this tobacco are divided into three classes: (1) Those employed by manufacturers, (2) those employed by independent leaf dealers, and (3) small speculators who individually buy and immediately resell.

Many of the larger manufacturers maintain their own leaf departments which are either an integral portion of the company or a subsidiary corporation. The head of the leaf department is usually a vice president of the company and all the company's operations in the buying, redrying, fermenting, and storage of tobacco (see Losses in Weight of Tobacco p. 78) are handled under his direction. The buying organization includes not only the actual buyers stationed on the different markets during the selling season but a supervisory corps of so-called circuit riders and head buyers, together with other personnel necessary for the physical handling of the tobacco, for maintaining suitable records, and for administering this important branch of the company's affairs.

The operation of a leaf department may be in itself a large business enterprise. Such an organization may purchase annually millions of dollars worth of tobacco. Since aging of the tobacco is necessary and purchases must be made from 2 to 4 years in advance, the leaf inventories of a company that manufactures cigarettes and smoking and chewing tobacco may total several hundred million pounds and comprise many different types of tobacco, each hogshead of which must be classified and recorded as to type, grade, year of production, prizing weight, location, etc. With respect to this branch of the trade, therefore, the sale of tobacco is made directly by the grower to the manufacturer.

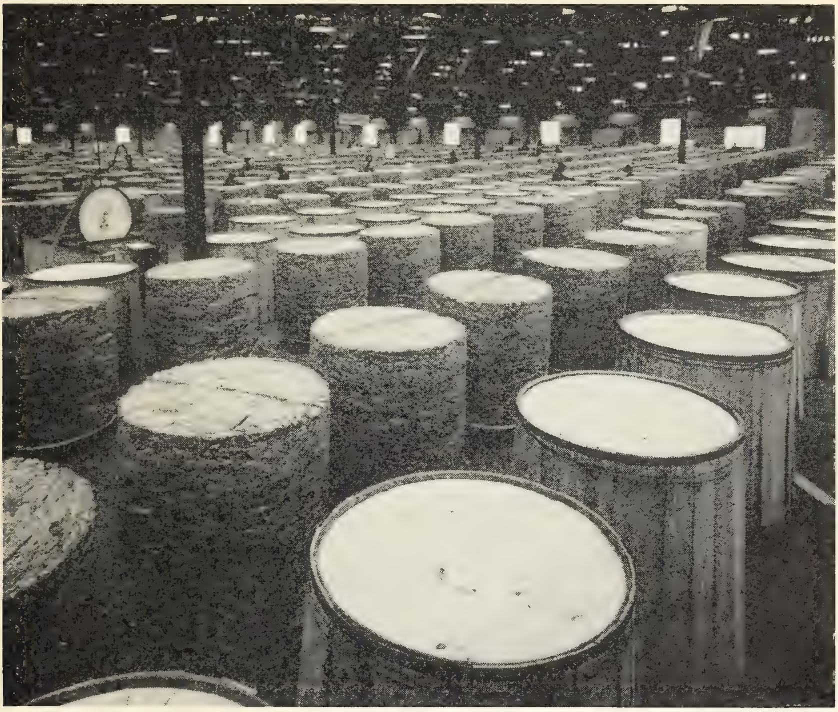
The buying policy of any company in a given year is based upon analysis of the present and prospective demand for its products, the volume of tobacco already held in storage, the size and character of the crop to be marketed, and the prices likely to prevail. Having determined its policy with respect to its needs for different types and grades of tobacco, the company issues instructions to the head buyers, circuit riders, and floor buyers as to the grades and quantities or percent of the offerings they shall buy including such limitations or provisions as may be necessary pertaining to prices. These instructions are modified from time to time according to changing developments during the marketing season.

Some manufacturers, instead of maintaining their own corps of buyers, place their buying orders with independent dealers. The method then followed is to specify the quantities and grades desired and place a limitation upon the price to be paid. The compensation to the dealer is usually in the form of an allowance per hundred pounds for buying expenses. The dealer's function is to purchase the tobacco, redry it, sort it into the company grades, and prize it in hogsheads. Charges for these services are usually about 2½ cents a pound.

Manufacturers other than those referred to—those whose operations are on a very small scale—buy tobacco directly from dealers as needed, the tobacco having been purchased outright by the dealer as a speculative proposition.

Aside from the purchasing operations of dealers already mentioned, most dealers also export tobacco. They may execute buying orders for their foreign clients, or may purchase tobacco outright for later sale to foreign customers wherever they can be found. Figure 34 shows dealer-owned tobacco ready for sampling by prospective buyers. A few foreign users of American tobacco maintain in this country either completely staffed and equipped buying and leaf handling organizations, or offices from which their buying may be directed, the actual purchasing and handling being done by domestic dealers.

In numerous foreign countries the production and manufacture of tobacco is a government monopoly. This is true of Japan, France, Italy, Sweden, Spain, and most or all the Balkan countries. In some other countries, notably Germany, foreign trade in tobacco is regulated by the government by restrictions upon the purchase of foreign exchange, not only as to the total amount available to a given individual or company, but as to the amount allowed for use in particular countries. Under this mechanism orders for the purchase of tobacco frequently are placed with countries on the basis of trade agreements or to promote policies of state rather than on the basis of the manufacturers' or consumers' preferences (*28*). (See also Governmental Factors, p. 101.)



AMA 1550

FIGURE 34.—Dealer-owned tobacco from which the casks have been removed incident to its sale. Prospective purchasers prefer to examine each hogshead of tobacco before accepting delivery, although many purchases are made upon the basis of samples.

THE HOGSHEAD MARKET

Previous to the development of loose-leaf sales it was customary for traders and growers to pack their tobacco in hogsheads (an operation known as prizing) in which form it could be readily shipped or hauled to market. At the market the hogshead was removed from the tobacco, and samples were drawn by official inspectors. To obtain the samples from the solid mass of a hogshead, breaks[10] were made at two to four places and the samples were drawn and laid on top for the inspection of buyers. The hogsheads were then recoopered and the tobacco was sold either at open or closed-bid auction. The method of "breaking" for the withdrawal of samples is shown in figure 35. This was the earliest form of tobacco auction market and came into existence about 1810 as an outgrowth of the colonial procedure of selling tobacco at public warehouses on the basis of negotiable receipts and inspections by public officers (*5*, *23*).

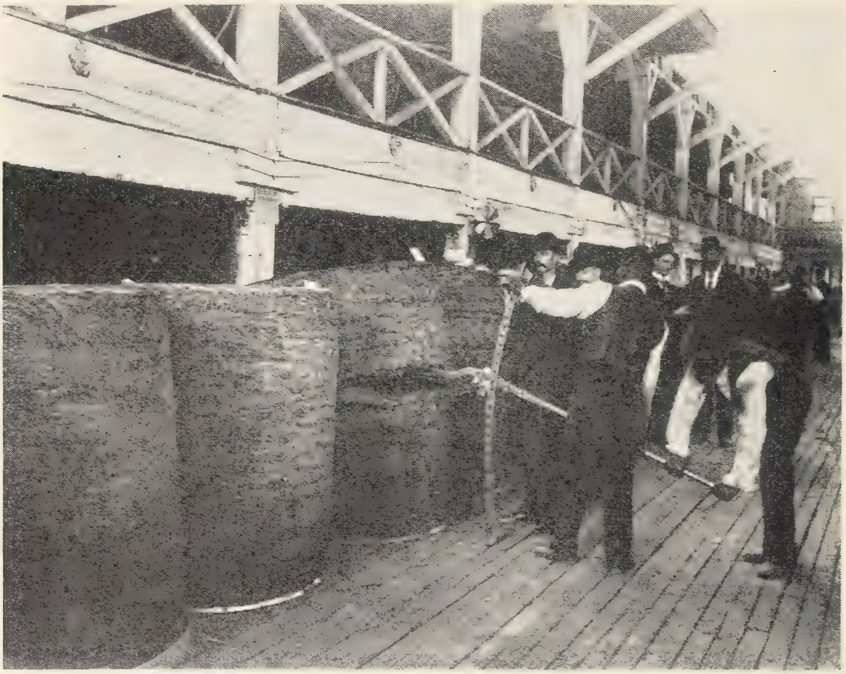

BPI 124

FIGURE 35.—Method by which samples of tobacco are withdrawn after removing the cask. This photograph was made in Louisville, Ky., more than 25 years ago when that city was an important hogshead market. A similar method of sampling prevails in Baltimore.

Open-auction hogshead markets flourished in Virginia, North Carolina, Ohio, Kentucky, and Tennessee. They were few in number as compared with the loose-leaf auction markets that have taken their place. As it was necessary to transport tobacco over long distances for sale, prizing was expedient. Louisville, Ky., was the most important of the hogshead markets and was at one time the largest tobacco market in the world, establishing records for volume of tobacco handled that have not been equaled by any loose-leaf market. This was the last market of its kind to surrender to the newer sales method (the loose-leaf auction), which occurred during the winter of 1929–30.

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[10] The term "breaks" remains as a part of tobacco-market terminology, although the practice by which it arose has disappeared from farmers' markets except at Baltimore. A common expression at loose-leaf markets is "Blank pounds of tobacco went over the breaks today," or "They had a good break of tobacco today."

Cincinnati, Ohio, was an important tobacco market during the period of the hogshead system but is no longer recognized as a tobacco market.

CLOSED-BID AUCTIONS

The only hogshead market now in operation is the closed-bid auction at Baltimore, Md., and even there it may soon be abandoned. During the early years of the colony the warehouses were located at numerous convenient tidewater points in the tobacco-growing territory, but these small markets were later superseded by the Baltimore market.

The tobacco is prized on the farm and shipped to Baltimore under consignment to a broker or to the cooperative marketing association. In either case the hogshead is sampled by State inspectors, and the samples are sealed and turned over to the consignee for display at his place of business. The buyers make the rounds of these brokerage offices and submit sealed bids on such tobacco as suits them. The bids are opened at the close of the day.

A similar procedure once prevailed in Richmond, with the exception that the warehousing and inspections were conducted by a tobacco board of trade rather than by State officials.

Some Maryland tobacco is sold outright by the growers to local dealers known as transfer buyers, by whom it is prized and sold in Baltimore as described above.

The closed-bid auction system as exemplified at Baltimore is open to several serious objections: Buyers have no opportunity to view the tobacco, except as it is represented by a sample so overdrawn and plucked as usually to misrepresent the tobacco in the hogshead; and as no buyer knows what other buyers are bidding, there is no opportunity and stimulus to raise the bid, which are the characteristic features of loose-leaf auctions. The practice of oversampling, coupled with the fact that the tobacco remains in the hogshead as prized on the farm, the presence in many hogsheads of inferior tobacco not revealed by the official samples, and the resulting uncertainty and losses occasioned to ultimate buyers, are believed to have had much to do with the great decrease in annual exports of Maryland tobacco.[11]

Dissatisfaction with the traditional system of marketing tobacco in Maryland led to the opening of auction markets at Hughesville and Upper Marlboro in May 1939 [12] and at other points in 1940.

Approximately one-fourth of the 1938 crop was sold at these points. Additional markets were established at Waldorf and La Plata and approximately 70 percent of the 1940 crop was sold at loose-leaf auction.

Country Sales

In most of the cigar-leaf tobacco districts the sale of the product is consummated on the farm. This may be accomplished by contracts entered into during the growing season between the growers and buyers, or by sales negotiated after the tobacco is cured or is in the process of curing.

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[11] University of Maryland Experiment Station and Extension Service Report of January 1935, "THE PRODUCTION AND MARKETING OF MARYLAND TOBACCO" (mimeographed), (p. 21: "Defects are apparent in the system of marketing tobacco in Maryland, from the standpoint of both buyer and grower. From the standpoint of the buyer the principal defects are (1) poor and sometimes dishonest packing of the tobacco on the farm, and (2) oversampling on the market. To these causes alone can be attributed a serious decline in the foreign demand for Maryland tobacco. * * *").

[12] Inauguration of auction marketing in Maryland was brought about by Crosby Wyche of Charlotte Hall, a student at the University of Maryland. His warehouse, the first to be opened, was located at Hughesville. Robert L. Hall and his associates joined in the movement by opening a warehouse at Upper Marlboro. Others have followed.

The buyer may be an independent packer or his representative, or the representative of one of the larger cigar manufacturers. Although competitive bidding exists in the sense that various buyers inspect the tobacco and make offers, the competition is less apparent than is true in the territory where the auction-sales method prevails. The buyers ride over the tobacco district periodically during the growing season and observe the progress of individual crops as well as the changes in acreage and crop prospects as compared with previous years, and thereby keep themselves informed on the location of desirable crops.[13]

Contracts for the purchase of tobacco at the barn may be at a stipulated price "around," that is, for all grades alike, or, as is more common in the cigar-leaf districts, so much per pound for the grades commonly referred to by various names which include (1) the grades suitable for cigar-manufacturing purposes, and (2) grades known as stemming grades and suitable primarily for the manufacture of scrap chewing tobacco. Such contracts ordinarily contain stipulations by which deductions from the agreed price may be made for excessive quantities of damaged leaf present when delivery is made.[14]

Not all the tobacco produced in the cigar-leaf districts is disposed of by simple sales contracts such as just referred to. Some of it, especially in the shade tobacco districts, is placed in the hands of dealers or packers by a contract under the terms of which the dealer acquires a half interest in the crop upon payment of a stipulated price per pound. The dealer then sorts, sweats, and packs the tobacco in bales or cases, and sells it to the best advantage. The costs of these operations are deducted from the gross returns, the difference being divided equally between the grower and the dealer.

A third procedure is occasionally followed by growers who believe they have a superior crop and that the market will improve. This is to have an experienced packer sort, sweat, and pack the tobacco for a stipulated fee. The tobacco is then stored by the grower for future sale.

Cooperative Marketing

The history and character of cooperative marketing presents a subject too broad for more than a brief reference here.[15]

Over a long period of years attempts have been made by tobacco growers to improve, by cooperative methods, the conditions under which they dispose of their products. Some of these attempts have been successful; others have been short lived and, judged by immediate results, have ended in failure, if not disaster. Viewed broadly, however, they have contributed much to a proper understanding of the problems and fundamental requirements of successful organization among growers, and substantial progress has been made in solving those problems and meeting those requirements.

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[13] The practice of "riding" the territory during the growing season is not confined to the cigar-tobacco districts, but is almost universal wherever tobacco is grown on a commercial scale. The circuit riders and buyers of the large manufacturing establishments, heads and buying staff of leaf-tobacco establishments, and small independent packers or dealers, all go to the fields and form their own judgment of the probable size and quality of the crop. On the basis of opinions thus formed, coupled with the trends and character of domestic consumer demand for manufactured tobacco products, stocks of leaf tobacco already in the hands of dealers and manufacturers, and the state of foreign demand for leaf tobacco are based the purchasing plans and price scales that will govern the returns to growers when their product is finally offered for sale.

[14] Country buying is not restricted to cigar-tobacco districts. In some districts that produce the so-called manufacturing and export types (types used in the making of smoking, chewing, and snuff tobacco both at home and abroad) farm or barn-door buying is important. This is notably true in the dark-fired districts of Kentucky and Tennessee. Here the purchases are made mainly by large concerns seeking to obtain the choicest crops at advantageous prices. To some extent, in these districts and in portions of the Burley district, purchases of this character are made by speculators who resell the tobacco over the floors of loose-leaf warehouses.

[15] For a more complete discussion of the principles of cooperative marketing, see the following references: (*2, 3, 4, 15, 17, 18, 24,* and *25*). See also Collins, William, and Bakken, Henry H., the cooperative tobacco marketing situation in wisconsin. U. S. Farm Credit Admin., Spec. Rpt. No. 19. [Mimeographed.]

The underlying objective of a cooperative tobacco marketing association is to enable producers to attain a greater degree of bargaining power than is possible when they act alone, and to enable them to bring about improvements and increase efficiency in marketing their crop.

The problems of cooperative marketing are many and varied. It is an intricate business enterprise entailing large investments of capital, business operations on a comprehensive scale, and dealings in a commodity differentiated into many grades, characteristics, and uses. The requirements for success consequently involve capable business direction combined with technical knowledge of a high order.

Since the cooperative must compete directly with existing marketing machinery, it follows that success will depend upon its ability to perform the marketing functions at less expense than is entailed by other methods. This involves the question of efficiency of the business organization itself and the question of volume of tobacco handled by which the overhead expense can be held to a minimum in cost per hundred pounds.

In former years cooperative tobacco-marketing associations were organized with the idea of monopoly control. It was believed that through control of a major portion of the crop, cooperatives could dictate the price at which their tobacco would be sold. Since many growers did not become members, the cooperatives' control over supply was not complete. The cooperatives lack the ability fully to regulate supply in relation to demand, and as a result attempts to maintain prices at artificial levels were not uniformly successful. Many of them attained initial success in establishing higher price levels but as membership declined, or as production by nonmembers increased, the strategic position of the associations became weakened and prices tended toward lower limits.

Through these associations, marketing activities of large numbers of tobacco growers over comparatively wide areas were centralized in one organization whose monopolistic features were reflected in the long-term contracts which the growers were required to sign. These contracts contained drastic penalties for failure of the growers to deliver the tobacco to the association and generally included no provision for withdrawal during the life of the contract. Many growers joined the associations without a clear understanding of what cooperation could and could not do and were therefore unprepared for the failure of their associations to do the things they had been led to believe could be accomplished through cooperative effort.

The situation was further aggravated by the fact that the pooling and withholding from sale of a substantial percentage of the crop stimulated prices paid to nonmembers on the open auctions. The nonmembers were apparently benefited as to prices by the measures adopted by the association, and this fact coupled with the unavoidable delays in final settlement for members' tobacco caused further discontent. In consequence, defections in membership rapidly increased, demonstrating the frequently observed phenomenon that growers will display enthusiasm for joining a cooperative organization in times of oversupply and low prices, but are apt to break away from the organization when changing conditions bring about higher returns for their crop.

Associations acquired facilities at different locations throughout their territory with a view to performing various services incident to marketing tobacco for their members. In view of the large-scale character of their operations and the policies pursued by their managements, it was probably inevitable that these cooperatives should incur the opposition of those concerned with marketing tobacco, such as warehousemen, buyers, and manufacturers. The opposition of those various groups increased, and the failure of the growers' organizations and those groups to develop mutually helpful working relations undoubtedly represented an important factor in the failure of the cooperatives to survive.

Tobacco cooperatives more than a decade ago abandoned the idea of controlling prices through monopoly influences, and there is a marked difference between the associations now operating and the large-scale organizations which functioned in the early 1920's. Contracts with growers have been liberalized, and associations are generally organized according to the type of tobacco handled by them. Pooling is no longer considered an indispensable function of a tobacco cooperative. Rather, the objective is to move the tobacco into the usual channels of trade as rapidly as possible. Among cooperatives currently operating under stabilization plans sponsored by the Government, pooling is resorted to only as a means of taking off the market such tobacco as fails to sell at or above minimum prices established according to grade. In effectuating this policy the present practice of associations is to utilize existing marketing facilities, such as public auction warehouses, whereas in former years the cooperatives set up receiving plants and sought to eliminate the auction market.

Functions of the associations usually include one or more activities, such as advice on curing procedure, making advances on stored tobacco pending sale, marketing, warehousing surplus tobacco, and in some cases purchasing machinery and equipment and general farm supplies for growers. In recent years tobacco cooperatives have given increased attention to acreage control and crop-adjustment programs of the United States Department of Agriculture, and have had an important part in influencing grower attitude toward these programs.

At present tobacco cooperatives are operating in Maryland; the dark tobacco areas of Virginia, Kentucky, and Tennessee; the cigar-leaf areas of Ohio and Wisconsin; and the Burley tobacco district of Kentucky and surrounding States.

There are two cooperative associations in the Burley district, one of which was organized about 1921 but ceased to handle tobacco in 1925, and a new association which was incorporated in 1940, but did not undertake marketing activities in that year. In January 1941 the older association resumed operations under a loan agreement with the Commodity Credit Corporation, the essential feature of which was the removal from the auction markets of tobacco failing to sell at minimum prices established according to grade, and the prizing and holding of such tobacco for sale when the supply situation should be found more favorable.

The procedure in this as in most other associations now functioning differs fundamentally from the procedure followed in former years. Then the association set up its own receiving, redrying, and storage facilities to the detriment of auction markets and privately owned redrying and storage companies. Present operations contemplate the fullest possible utilization of existing marketing machinery and leaf-handling facilities.

Maryland tobacco is sold on the Baltimore market (a closed-bid market that deals in packed tobacco) or through auction warehouses at various locations in southern Maryland. The cooperative that handles Maryland type tobacco operates exclusively on the Baltimore market. The association does not operate on a pool basis, but sells the tobacco of individual growers on an agency basis. (See Closed-bid Auctions, p. 73.)

The auction method of marketing prevails through the fire-cured and dark air-cured tobacco areas. Growers identified with all the associations have the opportunity of offering their crop on public auction floors, and since all fire-cured markets have Federal inspection and market news service, the growers can ascertain at once whether the price received is equal to or higher than the advance obtainable from the association, on a grade basis. If the bid at the auction is not acceptable, the grower may reject the bid and the tobacco will be delivered to the association. When the tobacco is pooled it is commingled by grade, and the individual lots lose their identity. Later when the tobacco is sold the grower receives payment for his portion of the pool after the amount of the advance and the association costs have been deducted. Certificates of grade are issued by inspectors of the United States Department of Agriculture at the time the tobacco is prized and these form the basis of loans by which the cooperative is financed. In recent years these associations have obtained their financing from Government agencies.

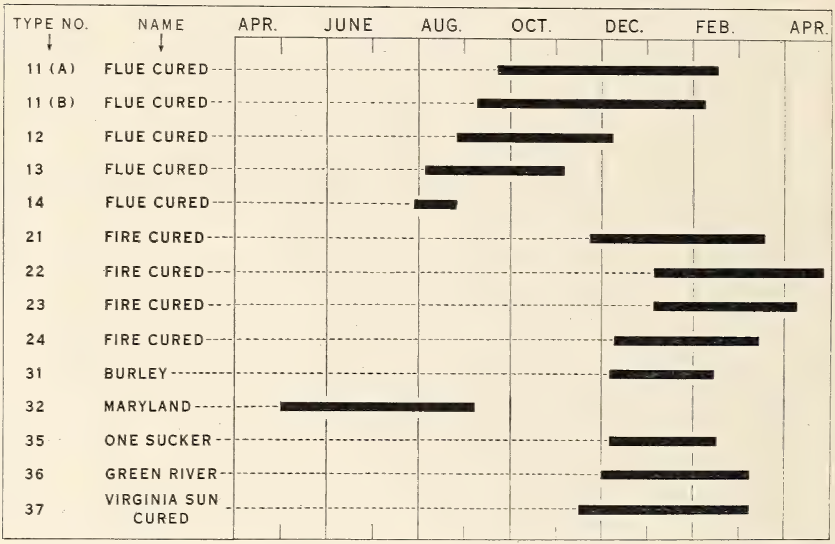
The grower's contract employed by these associations is more flexible than any heretofore used by tobacco cooperatives. Under this contract, the grower has the option of selling his crop at the farm instead of over the auction floor if he so desires, and of offering his tobacco at an auction warehouse of his own selection. The marketing agreement stipulates that the grower shall pay the association a small fee on tobacco sold otherwise than through the association.

The cooperative that handles northern Wisconsin cigar-type tobacco disseminates information relating to production and handling tobacco, such as selection of proper varieties, planting, harvesting, and classification of tobacco in preparation for sale. Packing and warehousing services are performed for the association's members. The association sells the tobacco on an individual basis for its members; practically no pooling is done. The marketing agreement permits the grower to sell his tobacco outside the association if he elects, in which event he pays the association a fee on the tobacco so sold. This is designed to cover other services rendered the grower by the association.

The cooperative that handles cigar-leaf tobacco in Ohio receives the tobacco from its members and grades it, stores it, and, pending sale, makes advances to its members according to grade, markets the tobacco on a pool basis and makes final settlement with the grower when all the tobacco in the pool is sold.

Marketing Periods

The marketing season for tobacco varies for the different types, and to a minor extent from year to year. Figure 36 shows graphically the approximate marketing period for types sold at auction markets. Cigar tobacco grown in Georgia and Florida is delivered to the buyers in the late summer, but that grown in the northern districts is delivered to buyers during the winter. The time of delivery is dependent somewhat upon the extent of buying activity, and to a further extent upon weather conditions. Preceding delivery the tobacco must be stripped, sorted according to size and grade, tied in hands, and bundled. Such handling requires mild, humid weather—a "damp" as it is known in New England, a "season" as it is known in western districts.



AMA 482

Figure 36.—Approximate marketing season for various types of tobacco sold at auction markets.

Baltimore until about 1936 was a year-round market, the selling season beginning about January 1 for the preceding year's crop. Now, however, sales begin about May 1, reach their peak during the summer months, and close around November 30.

LOSSES IN WEIGHT OF TOBACCO

Farmers deliver their tobacco to market in relatively high order. This is necessary to avoid breakage of the tobacco in handling during loading and transportation to market and during the selling process. Furthermore, tobacco in a pliant condition presents a better appearance as to finish and quality. Preparation of tobacco for delivery to market is accomplished when the weather for 2 or 3 days has been sufficiently warm and moist to soften it. In the absence of such a season the tobacco may be placed temporarily in an ordering pit, laid out overnight on the ground to catch the dew, or even sprinkled or sprayed with water. The result is that tobacco is normally marketed in higher order than is desirable for storage and some measure to correct this is required.

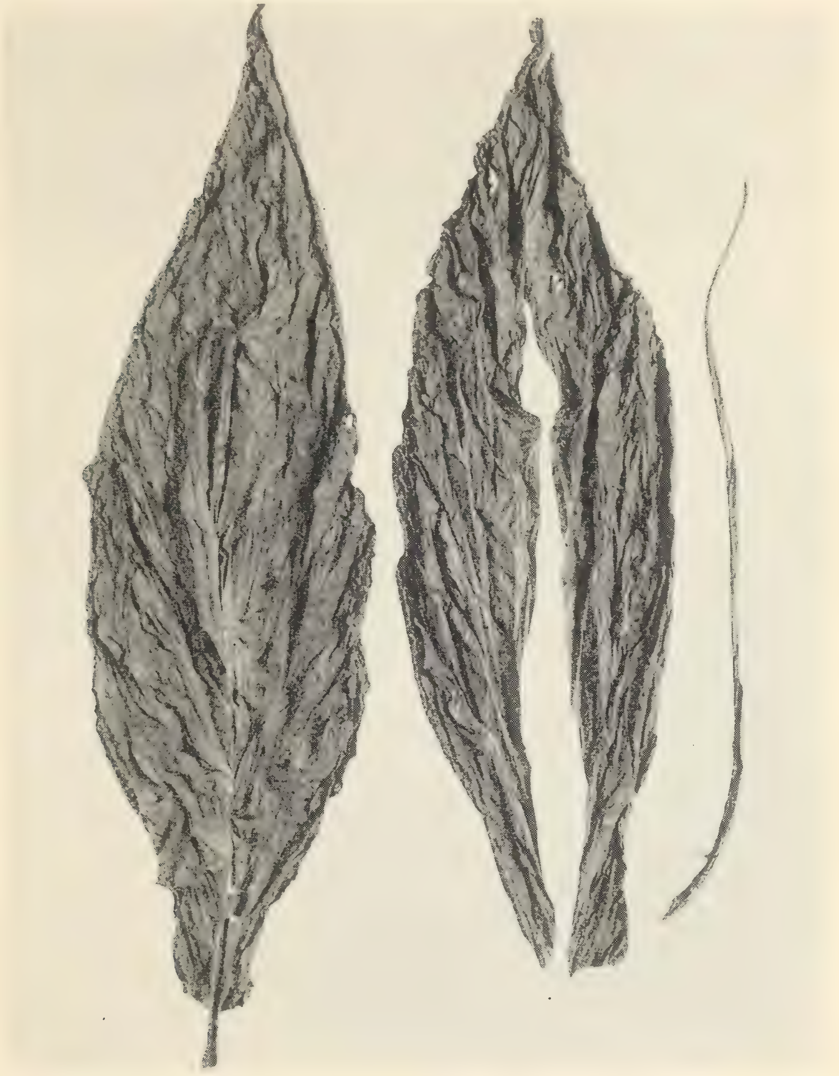

AMA 1287

FIGURE 37.—At the left is a leaf of tobacco; in the center a similar leaf after having been stemmed; and at the right the "stem" or midrib. Unstemmed tobacco is referred to as "leaf"; stemmed tobacco as "strips."

Tobacco is subject to progressive losses in weight from drying in preparation for storage, through removal of dirt and sand, and from chemical and physical changes incident to fermentation.

A further loss occurs when the tobacco is stemmed in preparation for manufacture or for export, although the quantity stemmed for export is relatively small. Losses vary for different types. The total loss from cleaning and drying in tobacco stored for 3 years varies from about 8 percent (Maryland, type 32) to about 20 percent in some cigar types.

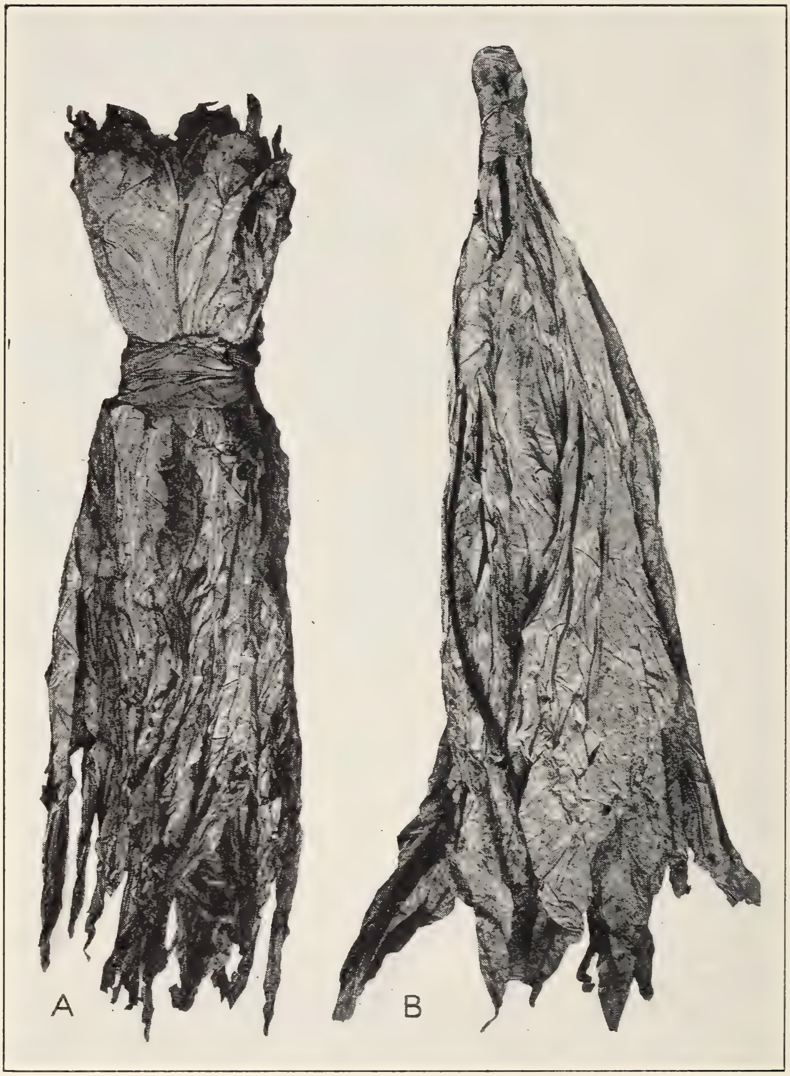


FIGURE 38.—*A*, a bundle of strips; *B*, a hand of flue-cured tobacco.

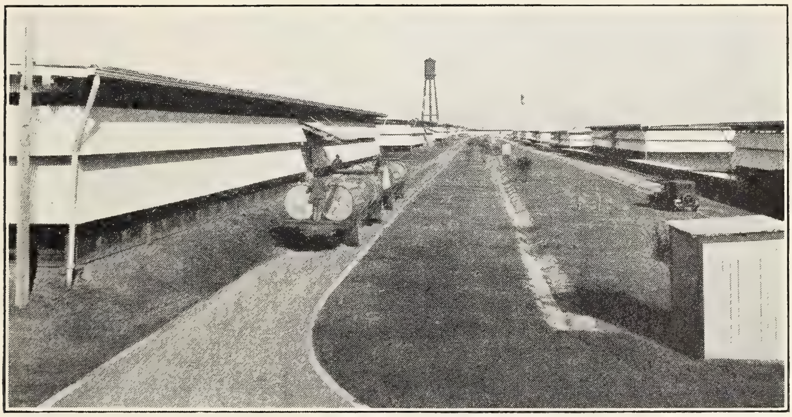
Similar variations are encountered in losses incident to stemming, ranging from 17 percent for Georgia-Florida shade-grown to 30 percent for One Sucker. The stems or midribs have some commercial value, as shown under Tobacco Byproducts (p. 95), but this value is low. Therefore, it is often found more economical to stem it at once and thus reduce transportation and storage charges. Examples of stemmed and unstemmed leaves are shown in figure 37. The stems are removed largely by hand labor, although machinery is occasionally used. Tobacco that has been stemmed is known as "strips" (fig. 38).

Preparation for Storage

The stages by which tobacco is prepared for storage fall into two groups according to whether fermentation is to be accomplished after storage or before. In general, the types sold at auction go through the fermentation process after storage, whereas the cigar types, as a rule, are fermented first and stored afterward. For convenience in discussing the sequence of handling procedures that precede ultimate storage of the tobacco, the types are grouped as those sold at auction and cigar types.

AUCTION MARKET TYPES

The auction market types of tobacco are packed in hogsheads for storage and aging, except for insignificant quantities packed in cases or tierces. In the case of export tobacco the storage is usually in bonded or monopoly owned warehouses abroad. For domestic storage large buildings of the type shown in figure 39 are usually provided. Such buildings shelter the tobacco from inclement weather but permit free circulation of air.



AMA 2195

Figure 39.—Exterior view of modern tobacco storage warehouses. Buildings are designed to protect the tobacco from the weather, but to allow free circulation of air. In center, hogsheads of tobacco on trucks.

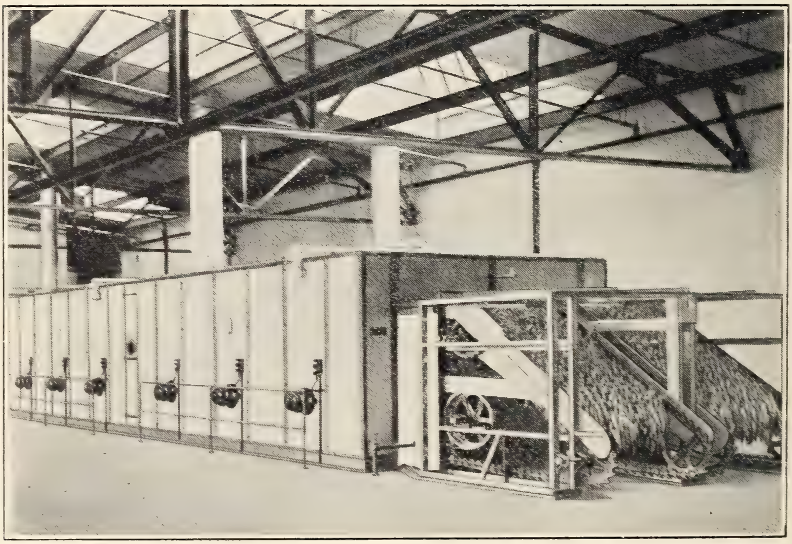
Before packing the tobacco in hogsheads, or prizing, as it is known, one of three procedures is adopted: The tobacco is either redried, hung, or bulked. Sometimes the latter two processes are combined.

The objective is to bring the tobacco into proper keeping order as to moisture content, and at some stage of the process it is reclassed or "picked" to achieve uniformity of grades or blends of grades.

In connection with the reclassing of tobacco it may be noted that most of it is done without untying the hands. This is usually known as "bundle picking," and the operation is a common practice among dealers and manufacturers—the former to achieve the grades desired by their customers, the latter to achieve those necessary for their own manufacturing requirements. Because of faulty preparation of tobacco for market, however, much tobacco as delivered by the growers is so mixed in the bundle that it has to be untied, resorted, and retied. This is known as leaf picking. It is an expensive operation, and the cost falls on the grower by reason of the fact in buying such mixed tobacco the buyer discounts the price to allow for the expense of leaf picking.

REDRYING

Redrying is the most expeditious method of getting tobacco into the proper order (moisture content) for storage. After having been resorted, the bundles of tobacco are hung over sticks 4 feet 4 inches long which are placed on the chain conveyers at one end of the redrying machine, there being one or two conveyers in each machine (fig. 40). For untied tobacco, apron conveyers are used. The tobacco is carried first through a steam-heated chamber where practically all the moisture is expelled. It goes next through a reordering or conditioning chamber where moisture is introduced under such control that when the tobacco emerges from the other end of the redrier it contains a predetermined percentage of moisture.



AMA 2196

Figure 40.—One end of a redrying machine, of which less than one-half is shown. The tobacco on sticks is carried by chains through the various drying and reordering chambers. Upon exit from the other end of the machine the tobacco is packed in hogsheads for storage.

The requirements as to percentage of moisture vary. Tobacco in "English" order contains approximately 11 percent. Should it be received at an English port with less than 10 percent it would be subject to a higher import duty. And in view of the high rate of duty on tobacco imported into Great Britain, the inclusion of moisture much in excess of 10 percent means additional weight and therefore added duty. Tobacco in "Continental" order carries a slightly higher moisture content, dictated largely by trade requirements. Tobacco redried for domestic storage contains a degree of moisture governed largely by the type of tobacco, the season of the year, and the judgment of the prizing foreman as to what moisture content will best promote fermentation without risk of damage.

The tobacco on coming out of the redrying machine is immediately prized, the hogsheads are numbered, weighed, recorded, and rolled into storage space or onto trucks for removal.

The redrying or steam drying of tobacco is universal in the flue-cured district, is used extensively in the Burley district, and, to a minor extent in the fire-cured and dark air-cured districts.

HANGING; BULKING

In some districts the tobacco is hung in racks until it has dried sufficiently for safe storage. (See fig. 41.) This is practiced in portions of the dark air-cured districts, and to a very minor extent in the Burley district. Sometimes the tobacco is bulked temporarily and then hung. In the fire-cured districts, especially those in Kentucky and Tennessee, the more common practice is to bulk the tobacco, after which it is reclassed and prized. If, however, the tobacco is received in such high order as to be in unsafe keeping condition, it is

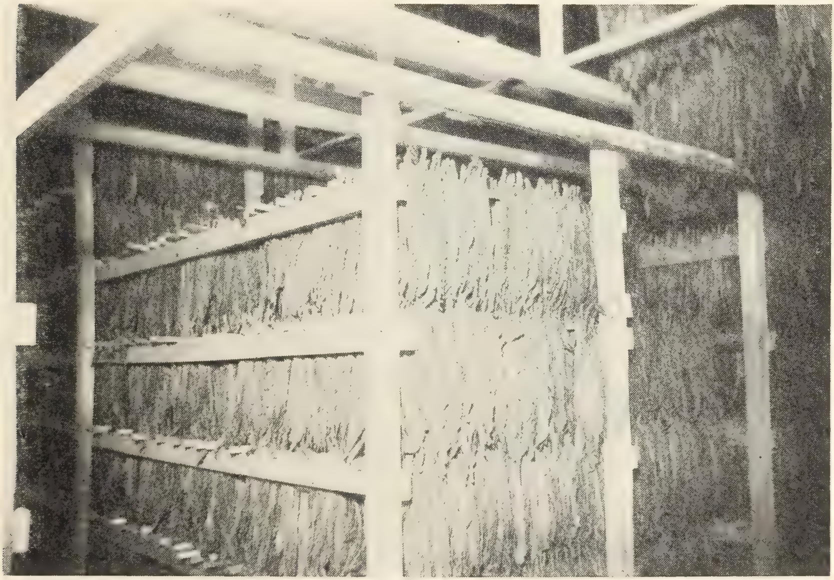

AMA 2213

FIGURE 41.—Tobacco hung for drying previous to prizing.

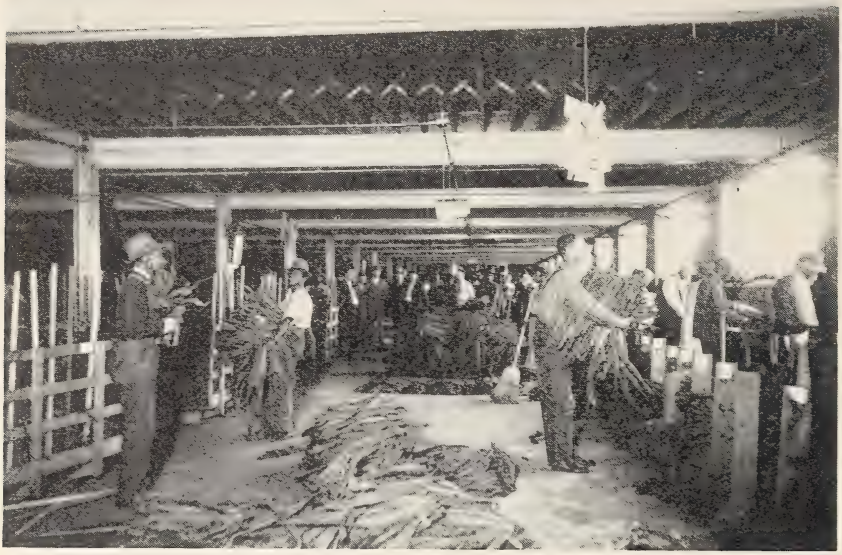


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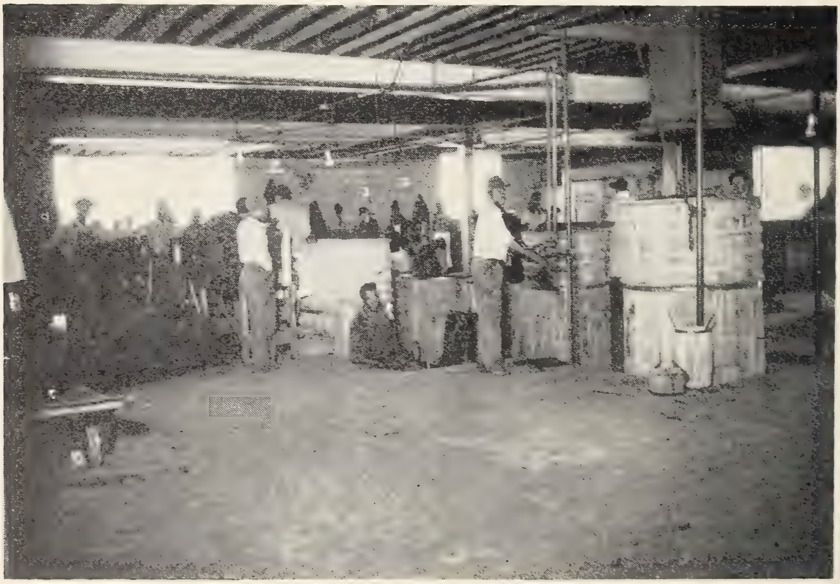
FIGURE 42.—Laborers carrying unsorted tobacco from the bulks to the sorters (shown working in front of the windows) and carrying sorted tobacco to the prizery crew or to new bulks to hold for prizing.



AMA 2215

FIGURE 43.—Prizing pit. The tobacco is packed carefully into the hogshead and also in the "header" or false section. By means of the hydraulic press (right) all the tobacco is forced down into the hogshead proper.

hung or "stiffened" previous to bulking. The bulking of tobacco in this instance is largely a matter of convenience in connection with the sorting and prizing. It is done during the winter months and little fermentation occurs. On being removed from the bulks the tobacco is resorted, sized, and prized. Figures 42 and 43 show typical operations in a prizery in the Kentucky-Tennessee fire-cured territory.

CIGAR TYPES

Some of the cigar types of tobacco—the cigar-wrapper types, for example—are fermented by the process of bulk sweating. The tobacco is taken directly from the curing barns to buildings especially constructed for the purpose. Here the tobacco is built into bulks of varying shape and size according to local custom. In northern latitudes the buildings are heated to facilitate fermentation. In warmer climates artificial heating is not required.

Tobacco bulks are built up with great care and kept under close scrutiny. Thermometers are inserted in tubes that penetrate to the center of the bulk, and daily temperature recordings are made. Within a few days the temperature in the bulk will reach what is considered a safe maximum for the type of leaf. Then the bulk is immediately reconstructed with the tobacco that formed the outside layer in the first bulk changed to an interior position. This process is repeated, the temperatures gradually getting lower, until the fermentation has been completed. The tobacco is further sorted—leaf by leaf in the more expensive wrapper types—sized, retied, and packed into bales. (See Wrapper Types, p. 46.) It is then stored in a cool place for a month or more when it is ready for sale or other disposition.

Some cigar-filler and binder types are packed in bundles by the growers and delivered to the buyers. It may then be bulk-sweated, as above, or table sorted and packed in wooden cases for either natural or forced sweating. In forced sweating the cases are held in heated rooms for hastening the sweat.

In the Puerto Rico filler district all tobacco is bulk-sweated (*6*).

THE AGING OF TOBACCO

Tobacco in its freshly cured state is not suitable for manufacturing purposes—byproducts uses excepted. Aging is required to complete its development. This is essentially a process of fermentation accompanied by chemical change. This fermentation may be hastened by suitable procedure in handling the tobacco as a preliminary to storage or the tobacco may be stored for natural fermentation. The latter procedure is customary in all except the cigar types, and takes advantage of the fact that tobacco in storage will undergo annual sweats or fermentations. As a rule from 2 to 3 years of storage are required to accomplish the necessary aging by natural or unforced fermentation. (See Preparation for Storage, p. 81.)

CHANGES DURING FERMENTATION AND AGING OF TOBACCO

In many respects the fermentation of tobacco may be regarded as an extension of the curing process. This is illustrated by a brief statement of some of the changes in shade-grown cigar wrapper tobacco during curing and fermentation:

CURING

A. During the initial stages of curing the leaf remains alive but undergoes a slow process of starvation. At first the leaf is rich in starch. The starch is converted into sugar, some of which is respired during this and succeeding stages, in the forms of carbon dioxide and water. Green chlorophyll disappears, leaving the leaf yellow or greenish yellow. Changes occur in the nitrogenous compounds present.

B. The leaf dies. The consumption of starch and sugar is checked. Products of the changes in nitrogenous compounds which occurred while the leaf remained alive are further broken down. Ammonia is formed and there is a considerable loss of nicotine. The color changes to brown as a result of oxidation processes. Throughout the curing the leaf undergoes gradual drying, finally losing most of its water, and there is also a considerable loss of dry matter. After the curing is complete and the tobacco has come into order the leaf is tied in bundles and transferred to specially constructed buildings for fermentation. At this time the tobacco is raw, rather bitter, lacking in aroma, and relatively high in nicotine.

FERMENTATION

The changes that occur during fermentation are complex and not fully understood. It is known, however, that there is a further loss of nicotine—10 to 15 percent in shade-grown, as much as a third in cigar filler. The nicotine lost by volatilization is that portion of the total nicotine content which is in a relatively free state (*7, 8, 9, 10*). Volatilization as well as decomposition of nicotine takes place throughout the curing, fermentation, and aging of tobacco, but most rapidly during those stages of fermentation when the temperature in the bulk or bale is highest. The reduction of nicotine has an important relationship to the smoking quality of the tobacco, that is, its freedom from pungent, biting, unpleasant taste and aroma.

Other changes occur during fermentation, including further loss in weight, and some changes in color. Tobacco tinged with green usually loses its greenish cast; colors tend to darken and to become more uniform. The texture of the tobacco changes. In the case of shade-grown wrapper tobacco discussed above, the leaves become more pliable and elastic—necessary attributes for wrapper purposes. Tobaccos that are by nature gummy previous to packing, of which the fire-cured types are the extreme examples, lose most of their gumminess. Sometimes the physical changes are adverse, as when the tobacco has been packed in too high order and has fermented too much or sweated too hard. Then the tobacco is apt to be harsh and rough to the touch, or in extreme cases to show evidence of mold, must, or rot.

Summary of Losses in Weight

From the foregoing discussion it is clear that losses in weight occur from the time tobacco has been cured until it is exported or is used in manufacturing processes; that these losses are attributable to several different factors; and that they vary in extent for different types of tobacco. Tables 23 and 24, excerpted from an earlier circular on the subject (*22*), summarize the losses in weight of different types of tobacco.

TABLE 23.—*Southern types of tobacco: Average percentages of loss in weight from different causes and percentages of weight remaining* [1]

Type	United States type No.	Cleaning [2]		Handling and packing [3]				Sweating and drying in storage [4]						Stemming [5]		Net yield
				Domestic order		Export order		First year		Second year		Third year				
		Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	
		Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Flue-cured	11-14	2.0	98.0	10.0	90.0	12.0	88.0	1.0	89.1	0.5	88.7	(6)	88.7	22.0	78.0	69.0
Virginia fire-cured	21	1.0	99.0	15.0	85.0	17.0	83.0	1.0	84.2	1.0	83.4	.5	83.0	23.0	77.0	64.0
Kentucky and Tennessee fire-cured	22, 23	.5	99.5	1.5	98.5	5.0	95.0	4.0	94.6	2.0	92.7	1.0	91.8	24.0	76.0	69.5
Henderson Stemming	24	1.0	99.0	10.0	90.0	14.0	86.0	3.0	87.3	1.5	86.0	1.0	85.1	24.0	76.0	64.5
Burley	31	1.0	99.0	10.0	90.0	11.0	89.0	2.0	88.2	1.0	87.3	1.0	86.4	26.0	74.0	64.0
Southern Maryland	32	(7)	(7)	(7)	100.0	(7)	100.0	4.0	96.0	2.0	94.1	1.0	93.2	26.0	74.0	69.0
One Sucker	35	1.0	99.0	8.0	92.0	10.0	90.0	2.0	90.2	1.5	88.8	1.0	87.9	30.0	70.0	61.5
Green River	36	1.0	99.0	10.0	90.0	14.0	86.0	3.0	87.3	1.5	86.0	1.0	85.1	24.0	76.0	64.5
Virginia sun-cured	37	1.0	99.0	11.0	89.0	15.0	85.0	1.0	88.1	1.0	87.2	.5	86.8	24.0	76.0	66.0

[1] Losses and remainders under cleaning, handling and packing, and sweating and drying in storage are percentages of farm-sales weight. Net yield is the stemmed processing weight.

[2] Removal of sand, dirt, etc.

[3] Includes sand and dirt loss and loss of moisture from redrying or air-drying.

[4] Storage losses calculated progressively, based on packed weight, domestic order.

[5] Percentages in removal of stem or midrib are based upon weight of leaf put into stemming process irrespective of time of operation.

[6] Negligible.

[7] Maryland tobacco is packed in hogsheads at the farm; therefore losses prior to packing are borne by the grower.

U. S. Dept. Agr., Cir. 435 (*22*).

TABLE 24.—*Cigar-leaf types of tobacco: Average percentages of loss in weight from different causes and percentages of weight remaining* [1]

Type	United States type No.	Handling and bulk sweating [2]		Sweating and spoilage in package [3]		Sweating and drying in storage						Stemming [5]		Net yield
						First year [4]		Second year		Third year				
		Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	Loss	Remainder	
Filler types:		*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Pennsylvania Seedleaf	41	2.7	97.3	11.6	86.0	2.3	84.0	2.4	82.0	1.7	80.6	28.0	72.0	58.0
Gebhardt	42	2.9	97.1	11.8	85.6	2.7	83.3	2.9	80.9	2.0	79.3	27.0	73.0	58.0
Zimmer	43	4.1	95.9	11.0	85.4	2.8	83.0	2.7	80.8	2.4	78.9	28.5	71.5	56.5
Dutch	44	3.3	96.7	10.5	86.5	2.8	84.1	2.9	81.7	2.1	80.0	29.5	70.5	56.5
Georgia and Florida sun-grown	45	17.5	82.5	2.1	80.8	2.5	78.8	2.0	77.2	2.0	75.7	21.5	78.5	59.0
Puerto Rican	46	12.0	88.0	1.0	87.1	4.0	83.6	1.9	82.0			21.5	78.5	64.5
Binder types:														
Connecticut Broadleaf	51	3.0	97.0	9.9	87.4	2.3	85.4	2.7	83.1	2.4	81.1	22.5	77.5	62.5
Connecticut Havana Seed	52	3.0	97.0	9.9	87.4	2.7	85.0	2.2	83.1	2.3	81.2	23.0	77.0	62.5
New York and Pennsylvania Havana Seed	53	9.0	91.0	7.0	84.6	2.0	82.9	2.4	80.9	1.5	79.7	26.5	73.5	58.5
Southern Wisconsin	54	3.7	96.3	13.7	83.1	1.9	81.5	2.9	79.1	1.5	77.9	23.0	77.0	59.5
Northern Wisconsin	55	6.3	93.7	10.6	83.8	1.7	82.4	2.2	80.6	1.7	79.2	25.0	75.0	59.0
Wrapper types:														
Connecticut shade-grown	61	8.9	91.1	2.6	88.7	2.7	86.3	2.2	84.4	1.7	83.0	18.5	81.5	67.5
Georgia and Florida shade-grown	62	10.9	89.1	2.0	87.3	3.2	84.5	2.6	82.3	2.1	80.6	17.0	83.0	67.0

[1] Losses and remainders under handling and bulk sweating, sweating and spoilage in package, and sweating and drying in storage are percentages of farm-sales weight. Net yield is the stemmed processing weight. [2] Prior to packing. [3] Prior to sampling time.

[4] This refers to end of first year after packing and not to end of first year after sampling.

[5] Percentages in removal of stem or midrib are based upon weight of leaf put into stemming process irrespective of time of operation.

U. S. Dept. Agr., Cir. 435 (*22*).

OUTLETS FOR AMERICAN TOBACCO

The outlets for American tobacco are the export trade and domestic manufacture of the commonly known products—cigars, cigarettes, smoking and chewing tobacco, and snuff—and the less well-known byproducts such as nicotine sulfate and tobacco extract. In all countries tobacco-consuming habits have undergone wide changes which have had important effects upon American tobacco production.

With respect to our domestic export trade in unmanufactured tobacco, the effects of changing character of tobacco consumption in foreign countries have been heightened by increasing production of tobacco abroad, increased competition which American tobaccos encounter in foreign markets, and, since the World War of 1914–18, increasing trade barriers erected by many foreign countries in pursuance of governmental policies (*28*). A brief survey of these various factors will aid in understanding the major changes in tobacco production that have occurred in the past or are now in progress.

DOMESTIC MANUFACTURED PRODUCTS

CIGARS

The cigar industry began as a farm and household enterprise. Shops employing skilled cigar makers began to appear after 1800, and larger factories gradually evolved from these. The making of cigars on farms disappeared, but the small shop persisted as an important phase of the industry throughout most of the nineteenth century (*1*). Since the perfection of cigar-making machinery in recent years, the evolution of the industry into fewer and larger establishments has been rapid, and the class of household and small-shop manufacturers has dwindled to insignificant proportions. An indication of the changes that have occurred in the last 20 years is given in table 25.

TABLE 25.—*Number of cigar manufacturers, classified as to number of cigars manufactured, specified years*

Year	Under 250,000	250,000 to 500,000	500,000 to 1,000,000	1,000,000 to 5,000,000	5,000,000 to 10,000,000	10,000,000 to 20,000,000	20,000,000 to 40,000,000	Over 40,000,000	Total
1921	(1)	13,149	510	620	178	85	25	11	14,578
1926	(1)	9,281	281	399	147	74	42	23	10,247
1931	6,490	174	117	203	51	46	25	32	7,138
1932	6,324	170	117	198	58	37	21	27	6,952
1933	6,006	164	123	194	59	34	17	23	6,620
1934	5,517	191	134	185	57	34	14	28	6,160
1935	5,112	184	119	166	48	30	23	27	5,709
1936	4,718	184	112	144	46	32	29	27	5,292
1937	4,315	173	103	135	38	33	27	29	4,853
1938	3,934	153	104	125	35	25	26	28	4,430
1939	3,666	132	98	111	34	28	20	32	4,121
1940	3,330	138	98	90	28	25	23	30	3,762

[1] Included in classification of 250,000 to 500,000.

Compiled from annual reports of the Commissioner of Internal Revenue.

Changes in organization of the cigar industry have entailed changes in output on the one hand, and in the production and marketing of tobacco on the other. In place of great numbers of small shop owners who purchased tobacco grown locally or imported for them by leaf dealers, the large manufacturers of today in order to maintain uniformity of product and insure adequate supplies of raw material, have their own leaf departments, and purchase and store large quantities of domestic and imported tobacco. They develop brands that are advertised and distributed on a national scale. This development has tended toward the elimination of small dealers and packers, especially as to the domestic types. There are, however, many manufacturers of medium to small output who still rely on the services of intermediary dealers.

In connection with the manufacture of cheap cigars, those selling at less than 5 cents each, and made largely with short or scrap filler as distinguished from the conventional long filler, there has developed an industry devoted exclusively to the production of scrap filler in large quantities. In these plants tobacco not so well suited for long-filler purposes is "ground" or broken into scrap. Relatively low-grade tobacco of many types is used, including some not used in the long-filler business. The product is sold to the cigar manufacturers.

A high degree of diversification exists in the cigar industry as to types and grades of tobacco used. With respect to the better grades of cigars, especially, the manufacturer is discriminating not only as to the blends adopted for the filler, but as to the binders and wrappers used. It is commonly recognized in the trade that certain types of wrapper tobacco, for example, will not blend well with certain types of filler; and similar claims are made as to binders. A good cigar, therefore, represents a studied matching of types and grades of tobacco as to aroma, burning characteristics, etc. The process of selection extends beyond a consideration of the qualitative factors and into the economic phases of price, availability and adequacy of supply, and "yield." By yield is meant the number of binders that may be obtained from a pound of binder tobacco, or wrappers from a pound of wrapper tobacco. The thinnest wrapper tobacco, and therefore yielding the highest number of wrappers per pound, is the Sumatra type from Netherlands Indies. But the use of this tobacco brings tariff rates into the equation. The most satisfying aroma may or may not be associated with high yield. In the struggle for supremacy, it will be seen, therefore, the manufacturer is confronted with many problems concerned not only with the choice and proper blending of tobaccos but with prices and duty rates as well as those of factory management and salesmanship.

Cigars are classified in various ways. For purposes of taxation they are divided into two groups, those weighing more than 3 pounds per thousand, called large cigars, and those weighing not more than 3 pounds per thousand, called small cigars. Large cigars constitute roughly 95 percent of the total number, and of the total tobacco used in the manufacture of cigars from 98 to 99 percent goes into large cigars.

Large cigars are further classified by the Bureau of Internal Revenue according to their intended retail price, as follows:

Class A, not more than 5 cents.
Class B, more than 5 cents, but not more than 8 cents.
Class C, more than 8 cents, but not more than 15 cents.
Class D, more than 15 cents, but not more than 20 cents.
Class E, more than 20 cents.

Even prior to World War I, the 5-cent cigar was the backbone of the cigar business. With the increased costs of material and labor incident to the war, retail prices of cigars rose, and 5-cent cigars dwindled in quality and volume of sales. Since that time an opposite trend has been in progress. Class A sales have risen to more than 89 percent of the total, whereas the sales of other classes have declined. The changes that have taken place since 1920 are shown in table 26.

TABLE 26.—*Manufacturers of large cigars, by price classes, as indicated by the sales of internal revenue stamps, 1920–40*

Year	Class A		Class B		Class C		Class D		Class E		Total number
	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	
	Thousands	*Percent*	*Thousands*	*Percent*	*Thousands*	*Percent*	*Thousands*	*Percent*	*Thousands*	*Percent*	*Thousands*
1920	1, 792, 702	22. 5	2, 500, 972	31. 4	3, 481, 573	43. 7	136, 083	1. 7	55, 694	0. 7	7, 967, 024
1921	2, 043, 400	30. 2	1, 883, 215	27. 9	2, 652, 685	39. 2	147, 825	2. 2	31, 505	. 5	6, 758, 630
1922	2, 622, 002	38. 1	1, 594, 185	23. 1	2, 525, 079	36. 6	115, 622	1. 7	35, 720	. 5	6, 892, 608
1923	2, 550, 267	36. 4	1, 614, 442	23. 1	2, 673, 709	38. 2	124, 116	1. 8	36, 353	. 5	6, 998, 887
1924	2, 610, 108	39. 2	1, 363, 280	20. 5	2, 521, 452	37. 9	130, 716	1. 9	32, 849	. 5	6, 658, 405
1925	2, 673, 638	41. 1	1, 125, 038	17. 3	2, 515, 002	38. 7	146, 559	2. 3	40, 517	. 6	6, 500, 754
1926	2, 886, 080	43. 8	945, 544	14. 3	2, 575, 649	39. 1	150, 737	2. 3	30, 918	. 5	6, 588, 928
1927	3, 175, 158	48. 3	747, 485	11. 4	2, 465, 318	37. 5	150, 320	2. 3	33, 093	. 5	6, 571, 374
1928	3, 310, 354	51. 3	639, 722	9. 9	2, 330, 822	36. 1	143, 141	2. 2	29, 629	. 5	6, 453, 668
1929	3, 582, 594	54. 7	575, 035	8. 8	2, 221, 821	33. 9	145, 153	2. 2	27, 081	. 4	6, 551, 684
1930	3, 573, 815	60. 7	388, 609	6. 6	1, 784, 451	30. 3	121, 009	2. 0	21, 249	. 4	5, 889, 133
1931	3, 687, 784	69. 3	169, 882	3. 2	1, 362, 131	25. 6	86, 099	1. 6	12, 997	. 3	5, 318, 893
1932	3, 490, 540	78. 6	52, 024	1. 2	838, 929	18. 9	56, 136	1. 2	5, 259	. 1	4, 442, 888
1933	3, 689, 723	84. 9	30, 840	. 7	572, 700	13. 2	46, 123	1. 1	5, 368	. 1	4, 344, 754
1934	3, 929, 122	85. 5	58, 027	1. 2	565, 370	12. 3	40, 646	. 9	4, 028	. 1	4, 597, 193
1935	4, 169, 543	87. 5	65, 570	1. 4	485, 676	10. 2	38, 509	. 8	4, 586	. 1	4, 763, 884
1936	4, 540, 848	87. 6	53, 051	1. 0	543, 663	10. 5	40, 652	. 8	4, 685	. 1	5, 182, 899
1937	4, 653, 221	87. 6	55, 570	1. 0	562, 405	10. 5	41, 187	. 8	5, 054	. 1	5, 317, 437
1938	4, 544, 621	88. 4	51, 670	1. 0	501, 952	9. 8	36, 425	. 7	4, 075	. 1	5, 138, 743
1939	4, 745, 622	89. 3	42, 444	. 8	483, 129	9. 1	35, 664	. 7	4, 533	. 1	5, 311, 392
1940	4, 780, 193	89. 2	41, 730	. 8	492, 484	9. 2	36, 926	. 7	4, 076	. 1	5, 355, 409

Compiled from reports of the Bureau of Internal Revenue.

It should be understood in connection with table 26 that the totals cannot be regarded as exact and that they will not agree with the numbers of cigars manufactured as shown in table 35. The figures shown in table 26 are based on sales of internal revenue stamps during the calendar year, although some of the stamps may be used the following year. The stamps must be used in connection with cigars of domestic manufacture, if withdrawn for domestic sale, and cigars imported, or shipped in from insular possessions. They are not applied to cigars of domestic manufacture for export, most of which are manufactured in bond, nor are they applied to the personal allowance of 21 cigars per week to cigar-factory employees, exempted from taxation under the regulations governing internal revenue. Figures in table 35, on the other hand, exclude cigars imported or shipped in, and include those consumed by factory employees. They do not include cigars manufactured in bonded warehouses.

The operations of bonded warehouses are conducted under the supervision and control of the United States Bureau of Customs, under a provision of the Tariff Act of 1922 which permits the establishment of bonded warehouses for the manufacture of cigars and other tobacco products wholly from tobacco imported from any one country. If the cigars or other products so made are exported, they escape payment of internal revenue and the tobacco used is not subject to payment of import duties. If, on the other hand, any of the cigars, etc., are withdrawn for domestic consumption, both the import duty and the internal revenue tax must be paid.

CIGARETTES

The growth of the cigarette industry presents one of the most phenomenal aspects of tobacco history. From a very small beginning shortly after the Civil War, when only hand methods of manufacture were known, this class of tobacco products has grown to a position of predominance in output, in the number of users, in tax returns to the Government, and in the acreage devoted to culture of the raw material. Cigarette types of tobacco, moreover, represent a preponderance in volume among the domestic tobaccos entering international trade.

The tobacco contained in practically all American cigarettes is a blend of two or more domestic types and imported tobacco. The type imported is known as oriental, more commonly referred to as Turkish, and is produced mostly in Turkey, Greece, and Bulgaria. Taking American cigarettes as a whole, the tobaccos which they contain are present in approximately the following percentages:

	Percent
Flue-cured	53. 0
Burley	33. 5
Maryland	3. 5
Oriental (Turkish)	10. 0
	100. 0

These figures are not intended to represent the formula of any one brand, but are believed to represent the approximate average of all combined.

Not only do cigarette blends combine different types of tobacco, but of a given type the blend usually contains leaf from two or more years' crops, because the characteristics of one year's tobacco vary from those of another year's. The effect of these differences is lessened, and the stability of the blend is maintained by combining tobacco from successive crops. For example, a blend might include flue-cured tobacco of 1933, 1934, and 1935 crops, merging later into the 1934, 1935, and 1936 crops and later into those of 1935, 1936, and 1937.

Oriental tobacco is sometimes regarded by domestic producers as competing with their tobacco. This is probably an incorrect assumption. Oriental tobacco is highly aromatic and has been found to blend well with domestic cigarette types. The "American style" cigarette is unique among the cigarettes of the world. In foreign countries it is almost universally true that cigarettes are "straight" or unblended, that is, are made of whatever type of tobacco is locally preferred.[16] The same was largely true in this country until early in the present century. At that time little or no Burley and Maryland tobacco was used for cigarette purposes. Cigarettes in the main were either straight flue-cured or straight oriental, and many brands of so-called Turkish cigarettes were on the market as well as many "Egyptian" cigarettes, made from oriental tobacco.[17] Under such conditions the imported leaf was competitive with domestic. The real rise in the industry came after the development of the blended cigarette and it seems fair to assume that the adoption of blending was in some degree responsible for the enormous increase in the popularity of cigarettes. This implies that oriental tobacco is complementary to, rather than competitive with, American cigarette types, and has facilitated the expansion of their market outlets.

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[16] In recent years a growing interest has been manifested in some European countries in cigarettes blended after the American pattern. The movement if continued may have significance in the domestic export trade.

CHEWING TOBACCO AND SNUFF

Chewing tobacco is manufactured in the following forms:

Plug.—This form is made of leaf tobacco pressed into flat plugs after the stems or midribs have been removed. Various additions are made to the tobacco, such as licorice, low-grade maple sugar, and honey. The plug consists of two parts, filler and wrapper. Plug fillers comprise mainly the heavier grades of flue-cured, Burley and dark air-cured types. Some fire-cured tobacco is so used. Plug wrappers are leaves carefully selected for exceptionally fine quality and fine appearance. The percentage of wrapper grades that appear on auction markets is very small, as a consequence of which they command premium prices.

Twist.—This form probably originated on the farm, the grower finding it convenient to make his tobacco up into twists for future use. Commercial twist tobacco, either sweetened or plain, is rolled into twists by hand labor in small tobacco factories located in producing districts, or by machine methods in the larger manufacturing establishments.

Fine Cut.—In this form the tobacco is cut by machinery to almost hairlike fineness and put up in foil or paper packages. It is used for both chewing and smoking. Fine cut also includes some tobacco so finely cut as to appear coarsely ground, put up in a form that closely resembles moist snuff.

Scrap Chewing.—Scrap chewing is made largely from the stemming grades of cigar types and provides a valuable outlet for broken leaves and the scrap from cigar manufacture; it also offers competition for grades of tobacco used in the manufacture of cheap cigars. In form, scrap chewing consists of irregular flakes of tobacco leaf, usually about half an inch in diameter, and is classified by the trade into sweet scrap and plain scrap. The sweet scrap is more heavily cased with flavoring materials than the plain.

The manufacture of chewing tobacco was at a high level for a long period up to and including 1918, the closing year of the World War. Since that time the decline has been rapid. The cigarette industry was entering its period of most rapid expansion during the closing years of the war (table 35).

Nearly all types of tobacco are used in the manufacture of chewing, even those that are primarily cigar and cigarette types as well as those that are unsuited for use in either of these forms. Flue-cured and Burley are now cigarette types in the sense that the cigarette industry provides their most lucrative outlet, yet both owe their early rise largely to the chewing-tobacco industry. Both continue to furnish tobacco used in the manufacture of plug, and some Burley is used in twist.

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[17] Tobacco is not produced in Egypt.

Types which in this country are used almost exclusively for chewing purposes are Virginia sun-cured and One Sucker, the latter having also an important foreign market. To some extent, too, Green River air-cured and the fire-cured types are used in chewing. Mathewson (*19*) gave the manufacture of long cut and fine cut as important uses of Green River, fine cut being used for smoking and chewing.

Table 35 shows the production of chewing tobacco in the United States, and since very little chewing tobacco is exported or imported, it represents fairly well the consumption of chewing tobacco in this country. There is, in addition, some consumption by chewing and smoking of natural leaf on or near the farm where the tobacco is produced. This is true not only in the important tobacco-producing States, but elsewhere. Tobacco-production statistics prepared and published by the Department of Agriculture relate to about 15 States, but small quantities are grown in many States by occasional farmers who cultivate a few rows and make twists of the leaf for home consumption and for sale to their neighbors. There is a small but rather flourishing parcel-post trade in natural leaf for smoking and chewing. The product is unsweetened and unflavored tobacco, which is too strong for the taste of most people.

Snuff.—Snuff, which is made chiefly of fire-cured tobacco, presents an anomaly in tobacco history. A century or more ago its use was considered one of the distinguishing marks of the gentleman, and gifts of jeweled snuffboxes were tokens of royal favor. Snuff-taking enjoyed a degree of respectability and elegance for about 200 years, but in more recent times the forms in which it has been used and the classes of users have undergone radical change. Relatively few people now living have seen anyone open a snuffbox and take a pinch of snuff into the nostrils. In fact, a good deal of the snuff now sold is in paste or moist form, and is commonly used by applying between the gums and the cheek. A few "dip" their snuff (*14*).

The use of snuff as now practiced is probably largely confined to laboring classes in the South, particularly Negroes, and to the Scandinavian population in Wisconsin and Minnesota. Table 35, page 112, shows the annual production of snuff from 1880 to 1940.

SMOKING TOBACCO

The term "smoking tobacco" commonly refers to pipe tobacco, although an indeterminate quantity of tobacco so classified is used in hand-rolled cigarettes.

Most smoking tobacco is treated by the addition of various substances which contribute to the mildness and aroma of the smoke and prevent too rapid drying out of the tobacco.[18] In addition, all tobacco is aged for 1 or more years before it is used. The aging process, during which the tobacco goes through annual sweats or fermentations, has an important effect in mellowing it and enhancing the aroma. A part of the nicotine content is lost by volatilization during fermentation.

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[18] It may be noted here, in connection with the flavoring of smoking tobacco and snuff, that the wild plant commonly known as deer's-tongue, houndstongue, or Carolina vanilla plant (*Trilisa odoratissima*) has been an article of commerce for such purposes for at least 70 years. It is referred to in the report of the Department of Agriculture for 1871 (*29*) which states that the leaves exhale the odor of vanilla when bruised and are used by tobacconists for flavoring smoking tobacco. Deer's-tongue is found in pine barrens from North Carolina to Florida.

The most widely used type for the manufacture of pipe tobacco is Burley. Some of the most widely distributed brands of smoking tobacco are made exclusively of that type, and probably few do not include some Burley. Many brands are blends of selected grades of numerous types.

TOBACCO BYPRODUCTS[19]

MATERIALS USED

Large quantities of offal accumulate in the handling and manufacturing of tobacco. The principal items of offal tobacco are as follows:

Stems.—Stems, as they are commonly known, are the midribs of tobacco leaves. (See fig. 37, p. 79.) In nearly every manufacturing use most of the stems are removed. The only exceptions relate to snuff, where the whole leaf is ground, and to Turkish tobacco used in cigarettes. The leaves of Turkish tobacco are so small that removal of the stems is unnecessary. Stems represent approximately one-fourth of the weight of the leaf, the actual percentage for specific types varying from 17 to about 30 percent (*22*). In addition to stems accumulating in tobacco factories, considerable quantities of tobacco are stemmed for export. As a result of these two classes of operations it is estimated that from 180 to 200 million pounds of stems become available each year for manufacturing purposes and export. Exports of stems normally range from 15 to 20 million pounds annually. Relatively small quantities are added to leaf tobacco in the manufacture of snuff, and indeterminate though small quantities are softened by steaming or soaking, flattened by rolling, and used in various tobacco products. The byproducts industries absorb from 80 to 90 percent of available stems.

Scraps, Cuttings, and Clippings.—This class includes factory and warehouse scrap, damaged leaves, and other waste products not suitable for use in ordinary tobacco products.

Dust and Siftings.—Tobacco as it is received from the farm at redrying plants, dealers' packing houses, and factories, often has fine soil particles clinging to it. This may be road dust carried by wind, or fine soil particles thrown up on the lower leaves by storms or in the course of field operations. One of the necessary operations in all processing plants is to shake out each hand or bundle of tobacco to loosen the leaves and remove the dust and fine sand, or to put it through cleaning machines which accomplish the same result. Inevitably small particles of tobacco are loosened at the same time. From 2 to 5 million pounds of dust and siftings are developed annually in this operation.

BYPRODUCTS MANUFACTURED

The principal byproducts of the tobacco industry are fertilizer, nicotine for insecticides, and tobacco extract for flavoring.

Fertilizer.—Tobacco stems when finely ground and sterilized are used in the manufacture of mixed fertilizers as a conditioner to give the mixture easy-flowing properties, and as a source of organic potash.

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[19] For a more exhaustive discussion of tobacco byproducts, see "EXPORT TRADE IN AND BYPRODUCTS USES OF TOBACCO" (*28*).

Most of the stems so used are the dried and ground residue of the nicotine-extraction and tobacco-saucing extract industries, including also the residue of leaf tobacco similarly used. Other offal such as dust, scrap, clippings, etc., represent only a minor item.

Unstemmed tobacco contains from 3 to 7 percent of potash. The potash content of stems is higher than that of the leaf web. The usual range for previously untreated stems is considered to be from 6 to 10 percent, although an analysis by Mehring (*21*) of 359 samples of stem material arriving at fertilizer plants, from nicotine factories, disclosed an absolute range in potash content of from 1.6 to 12.7 percent, and an average of 6. Tobacco stems are therefore important as an organic source of this element in mixed fertilizers. Goldenweiser (*11*) reported the use for this purpose of 2,006 tons in 1917 and 1,861 tons in 1918. The later development of American supplies of potash has eliminated tobacco waste from consideration in this respect. Tobacco also contains from 1.2 to 5.3 percent of nitrogen, and about 0.7 percent of phosphoric acid. It is not usually listed among the organic ammoniates, however, as the percentage of nitrogen is relatively small. Prices paid for stems by the fertilizer industry are based on the unit values of potash and organic nitrogen.

It is estimated that from 40,000 to 50,000 short tons of stems are used annually as a conditioner in the manufacture of mixed fertilizers. Fairly large quantities of stems and stem meal unmixed, are sold for their potash, nitrogen, and organic or humus content, direct to consumers. The New England tobacco district and some truck- and citrus-producing areas are important consumers of tobacco waste in this form.

The value of offal or waste tobacco in this industry arises not only from its content of potash, nitrogen, and other plant-food constituents, but from the stability of supply, the fact that the fertilizer elements are readily available, and its fine adaptability as a conditioner.

Nicotine.—Large quantities of tobacco waste, and leaf tobacco when available at low prices, are used in the manufacture of insecticides, mainly in the form of nicotine sulfate. Nicotine sulfate is in fairly steady demand for use in spray mixtures and for control of cattle, sheep, and poultry parasites. Nicotine bentonite, a development of recent years for use as a poison against chewing insects, is in commercial production.

The nicotine content of tobacco is highly variable. Wide differences occur between types, between leaves in different positions on the same stalk, and between the leaf web and the stem. In general, the nicotine content of tobacco varies from about 1 percent in the Maryland type to 4 or 5 percent or more in fire-cured. Rustica, produced in this country on a small scale and for insecticidal use only, contains from 5 to 10 percent. It should be noted in this connection that tobacco in manufactured forms has lost much of its nicotine content through volatilization which occurs in processing.

The nicotine in tobacco is contained mostly in the leaf web. Stems contain much less, the average yield for stems of all types being not greater than 0.7 percent. The nicotine is recovered usually by steam distillation.

The major portion of the supply of nicotine is derived from factory byproducts such as stems and factory waste. An important quantity is also derived from low-grade leaf of the fire-cured and dark air-cured types.

Most of the product is sold in the form of nicotine sulfate of 40 percent concentration, although solutions of 30, 20, and 10 percent are also sold. Some is sold as "pure" nicotine, of 50-, 82-, 95-, and 99-percent strength. It is estimated that the total American production of nicotine products is equivalent to approximately 1,000,000 pounds of the pure alkaloid, and that there is consumed annually in its manufacture about 60,000 tons of factory offal and stems, and from 10 to 20 million pounds of low-grade leaf. Some nicotine also is derived as a byproduct of the "extract" business, which is discussed below.

Exports of nicotine sulfate, shown in table 27, have been fairly large, and were increasing until the outbreak of war in Europe in 1939 interfered.

Tobacco Extract.—The byproduct industry also manufactures tobacco saucing extract. It is obtained almost entirely from fire-cured and dark air-cured tobacco by a cooking process applied to leaf tobacco. The resulting liquid is concentrated to a standardized basis. This material is used by European manufacturers as a base for sauce or dip to flavor the spinning type of chewing tobacco. In the manufacture of these sauces some manufacturers recover a portion of the nicotine from the original sauce.

TABLE 27.—*United States exports of nicotine sulfate, by countries, for specified years*

Country to which exported	1929	1931	1933	1935	1936	1937	1938	1939
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Belgium	36,480	0	0	0	4,250	0	0	0
France	9,888	20,555	6,701	0	656	11,000	0	0
Germany	2,817	35,148	3,633	0	24,243	0	20,440	0
Norway	2,047	2,940	15,829	10,851	15,090	10,090	11,328	10,000
United Kingdom	6,387	0	6,000	7,000	1,888	0	2,000	0
Canada	52,919	84,664	29,454	22,887	34,114	56,270	108,303	109,772
Mexico	7,481	1,455	16,985	8,493	6,514	10,589	9,567	8,061
Cuba	3,611	4,719	450	5,958	5,516	1,200	9,702	3,146
Argentina	2,500	0	3,000	9,195	9,410	14,525	11,500	15,500
Brazil	2,700	0	0	3,902	4,910	5,068	0	0
Peru	2,400	0	0	705	0	200	500	4,105
Uruguay	4,000	985	0	0	1,000	1,450	0	1,000
China	3,000	4,210	30	10	15,000	190	0	12
Japan	66,472	56,296	10,288	186,580	261,746	266,657	201,923	233,398
Australia	34,641	17,902	46,375	53,295	88,453	94,836	90,631	68,676
New Zealand	5,272	17,237	12,154	21,707	24,936	39,567	29,877	33,150
Egypt	4,500	0	2,850	17,221	38,143	0	0	0
Union of South Africa	0	1,035	879	4,837	2,672	1,934	1,681	5,432
Other countries	4,280	1,246	855	16,476	2,487	3,863	3,564	8,570
Total	251,395	248,392	155,483	369,117	541,028	517,439	501,016	500,822
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Value	217,622	203,260	89,105	173,802	272,440	317,317	303,518	302,629
Value per pound	.8657	.8183	.5731	.4709	.5036	.6132	.6058	.6043

Compiled from Foreign Commerce and Navigation of the United States and official records of the Bureau of Foreign and Domestic Commerce.

Tobacco extract is produced for export only and is marketed in Europe. In normal times Germany takes from 85 to 90 percent of the output.

The exports of extract in recent years are shown in table 28.

TABLE 28.—*United States exports of tobacco extracts, by countries, for specified years*

Country to which exported	1929	1931	1933	1935	1936	1937	1938	1939
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Belgium	3,744	590	648	629	28,212	0	1,852	1,281
Denmark	1,431	3,687	0	1,921	1,277	3,107	1,856	4,360
Germany	1,756,513	1,098,306	1,085,351	1,005,065	1,377,480	1,406,584	733,486	214,290
Netherlands	142,008	102,620	86,034	90,963	75,127	68,901	72,309	115,973
Norway	45,950	29,707	34,468	35,131	29,298	33,290	26,584	37,653
Sweden	6,550	0	0	0	5,686	5,765	5,500	6,600
United Kingdom	8,240	52	28,000	0	0	0	357	4,380
Canada	22,586	34,037	36,782	41,899	49,804	37,498	1,208	80
Cuba	0	40	0	7,470	273	5,888	0	0
Haiti, Republic of	26,084	1,217	0	0	0	360	0	0
Colombia	702	703	320	21,200	0	15	1,024	0
Uruguay	0	0	5,843	4,529	4,492	915	0	0
China	0	324	600	0	0	1,120	0	0
Japan	10,614	0	0	0	0	0	475	0
New Zealand	8,336	16,160	0	0	3,520	0	0	0
Other countries	6,642	6,976	13,686	7,881	15,652	18,252	4,732	11,590
Total	2,039,400	1,294,419	1,291,732	1,216,688	1,590,821	1,581,695	849,383	396,207
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Value	348,810	218,944	194,587	194,596	257,036	255,982	140,636	70,432
Value per pound	.1710	.1691	.1506	.1599	.1616	.1618	.1656	.1778

Compiled from Foreign Commerce and Navigation of the United States and official records of the Bureau of Foreign and Domestic Commerce.

Minor Byproducts.—Minor byproducts prepared from offal tobacco are poultry dusting powder, greenhouse fumigants, and mushroom spawn. Other actual or potential byproducts are nicotinic, malic, and citric acid. Laboratory research is being conducted to make the production of these acids from tobacco offal commercially practicable, and to explore the possibility of other uses.

EXPORT TRADE

In colonial times the overseas trade in tobacco was so important that statistics on exports represent the only apparent record of production for the period from 1618 to 1788 (*13*). Beginning with 20,000 pounds in 1618, they permanently passed 1 million pounds in 1639. From 1664 to 1774 exports ranged from 20 million to more than 107 million pounds. From then until 1814 the quantity exported fluctuated widely, and it was not until 1851 that exports permanently exceeded 100 million pounds. Since 1870 the exports have never fallen below 200 million pounds, and since 1899 they have only twice fallen below 300 million pounds. In recent years, allowing for some loss in weight in the tobacco as reported in export statistics, approximately 40 percent of the total United States production has been exported.

The factor of predominant influence in the tobacco industry today is the steadily increasing consumption of the cigarette throughout much of the world. Its effects are apparent, therefore, not only in the increasing production of cigarette types of tobacco for domestic consumption but in exports and imports of cigarette tobacco. Tobacco from earliest colonial times has been one of our important export commodities, being exceeded in export value among agricultural products only by cotton, wheat, and some meat products, but the character of tobacco exported has undergone great change.

Of the types of tobacco that enter into the domestic export trade, fire-cured probably led in production and exports during the nineteenth century and until about 1918. At about that time world consumption of cigarettes was making an extraordinary expansion. As a result, flue-cured tobacco increased rapidly in production and exports, whereas fire-cured entered into a decline that has continued almost without interruption to the present time.

Since 1923 statistics of tobacco exports, compiled and published by the United States Department of Commerce, have been segregated on the basis of types. In table 29 the exports by types and total leaf exports are shown for the years 1923 to 1939, inclusive, and the percentage of each type to the total. The increasing percentage of flue-cured and the decreasing percentage of fire-cured tobacco are noteworthy.

TABLE 29.—*Exports of leaf tobacco from the United States, by types, 1923–39* [1]

Type	1923	Average 1924–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*
Flue-cured, types 11–14	266.0	312.7	349.6	244.5	322.8	302.6	361.9	362.5	252.2
Virginia fire-cured, type 21	27.4	22.0	13.3	10.3	9.9	9.5	7.8	10.1	3.9
Kentucky and Tennessee fire-cured, types 22, 23, and 24	167.1	105.1	79.0	60.3	52.9	50.4	47.0	46.4	30.1
Burley, type 31	7.7	8.6	10.7	12.0	8.9	11.2	11.1	11.3	10.1
Southern Maryland, type 32 [3]	18.1	14.2	9.6	7.1	4.7	6.1	5.3	4.5	6.3
One Sucker, type 35 [4]	--------	[5] 4.0	1.6	1.1	.8	.5	.2	1.8	2.1
Green River, type 36 [4]	16.2	12.7	4.7	3.4	3.7	2.2	3.7	2.2	.6
Cigar leaf	1.5	1.4	2.3	1.2	.7	.7	1.3	2.9	.6
Black Fat, Water Baler, and Dark African [6]	--------	[5] 2.0	8.6	9.7	10.1	9.5	7.8	7.8	5.5
Other leaf, Perique [7]	44.9	11.5	.1	.1	.1	.1	.1	.2	.1
Total leaf	548.9	494.2	479.5	349.7	414.6	392.8	446.2	449.7	311.5
Stems, trimmings, and scrap	39.2	8.1	19.8	16.2	17.5	20.5	14.8	28.4	20.9
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Flue-cured, types 11–14	48.5	63.3	72.9	69.9	77.9	77.0	81.1	80.6	81.0
Virginia fire-cured, type 21	5.0	4.5	2.8	3.0	2.4	2.4	1.8	2.3	1.3
Kentucky and Tennessee fire-cured, types 22, 23, and 24	30.4	21.3	16.5	17.3	12.8	12.8	10.5	10.3	9.7
Burley, type 31	1.4	1.7	2.2	3.4	2.1	2.9	2.5	2.5	3.2
Southern Maryland, type 32 [3]	3.3	2.9	2.0	2.0	1.1	1.6	1.2	1.0	2.0
One Sucker, type 35 [4]	--------	.8	.3	.3	.2	.1	(8)	.4	.7
Green River, type 36 [4]	3.0	2.6	1.0	1.0	.9	.6	.8	.5	.2
Cigar leaf	.3	.3	.5	.3	.2	.2	.3	.7	.2
Black Fat, Water Baler, and Dark African [6]	--------	.4	1.8	2.8	2.4	2.4	1.8	1.7	1.7
Other leaf, Perique [7]	8.1	2.2	(8)	(8)	(8)	(8)	(8)	(8)	(8)

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[1] The export statistics in this table are on the basis of crop years as follows: Flue-cured, year beginning July; Maryland, year beginning January of year following production; all other types, year beginning October.

[2] Preliminary.

[3] Includes Eastern Ohio, type 71.

[4] Prior to Jan. 1, 1927, One Sucker included with Green River.

[5] 1926–28, 3-year average.

[6] Prior to Jan. 1, 1927, included with other leaf.

[7] Prior to Jan. 1, 1929, a part of exports of other types not reported separately; beginning Jan. 1, 1929, Perique only.

[8] Less than 0.05 percent.

Bureau of Agricultural Economics. Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce. Export weight.

Factors affecting the foreign demand for American tobacco aside from those of only short-time significance, fall into two broad groups, (a) nongovernmental and (b) governmental (*28*). Briefly stated, the more important ones are as follows:

NONGOVERNMENTAL

Changes in Tobacco Habits.—Tobacco habits tend to be strongly fixed, not only as to the choice of product, as snuff, chewing, pipe, cigar, or cigarette, but also as to the quality of product. This fact lends stability to the manufacturing industry of a nation and, in the absence of governmental controls, discussed later, to the international trade in tobacco by which the requirements of that industry are supplied. If a considerable segment of the population in a certain country prefers cigars made of American fire-cured tobacco, for example, and the preference has been established on the basis of certain grades purchased over a long period of years in, say, the Clarksville–Hopkinsville–Springfield district of Kentucky and Tennessee, then the manufacturers will continue to seek those grades in that area. They are not likely to change unless the smokers' preferences change, or unless governmental or economic considerations of a compelling nature intervene.

Tobacco-consuming habits as a rule change only slowly. One factor promoting change is the gradual disappearance of the older generations addicted to one pattern of preferences, and the rise of younger generations whose tobacco preferences may be more easily swayed by fashion, the mode, or what might be termed the modern trend. The trend in most western European countries, especially, has been for many years toward cigarettes. As shown in table 30, the estimated consumption of cigarettes in Europe rose from about 116 million pounds in 1913 to more than 401 million pounds in 1930, and after a setback in 1931 rose to more than 396 million pounds in 1935. Other tobacco products were variously affected by this great increase. Cigars declined for several years, but since 1932 have shown stronger recovery than have cigarettes. Smoking mixtures gained somewhat for a time and then lost, with only a minor net change for the whole period of years. On the other hand chewing tobacco and snuff lost consistently. The total volume of consumption registered a net rise of around 27 percent during the period.

Changes in modes of consumption usually involve shifts in the types of tobacco used in manufacture. With respect to the matter under discussion this may involve a change from one American type to another, or changes to competing types produced in other countries.

Quality and Prices.—This refers to the quality of the crop coming to market and of competitive types, and the prices at which competing types may be purchased. This is a manufacturing problem involving the interchangeability of different types of tobacco, or tobacco from different countries. Under conditions of free enterprise manufacturers are loath to use substitute types in products that have become popular.

TABLE 30.—*Estimated consumption of tobacco products in Europe, 1913 and 1920–35* [1]

Year	Cigars	Cigarettes	Smoking mixtures	Chewing tobacco	Snuff	Total
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1913 [2]	175,087	115,956	387,613	34,660	49,312	762,628
1920 [2]	118,684	233,108	365,465	31,221	36,325	784,803
1921 [2]	113,382	248,422	390,198	30,079	38,509	820,590
1922 [2]	92,951	263,029	402,287	27,827	37,247	823,341
1923	93,162	270,392	428,071	26,166	34,077	851,868
1924	114,275	298,186	423,049	26,429	33,583	895,522
1925	116,422	323,531	416,004	26,221	34,237	916,415
1926	117,069	322,564	428,234	25,642	31,969	925,478
1927	124,324	345,440	442,209	24,808	31,372	968,153
1928	130,689	368,022	444,181	22,838	30,687	996,417
1929	131,317	390,781	437,657	22,334	29,821	1,011,910
1930	135,067	401,296	417,597	21,341	29,564	1,004,865
1931	120,685	380,116	403,075	19,851	28,162	951,889
1932	105,291	385,373	393,745	18,504	27,334	930,247
1933	113,305	382,748	391,798	17,373	26,328	931,552
1934	126,330	390,869	389,337	18,103	25,576	950,215
1935	144,006	396,515	383,721	17,993	24,781	967,016

[1] Total consumption of 20 countries. In this table the quantity of tobacco products sold is used as the measure of consumption. It is believed that such sales approximate consumption when all the European countries are considered as a unit.

[2] Includes estimates for 6 countries in 1913 and 1920, 4 in 1921, and 2 in 1922.

Compiled from U. S. Dept. Agr. Tech. Bul. 587 (*16, p. 9*).

GOVERNMENTAL FACTORS

The factors just discussed are those that formerly exerted an important influence over our sale of tobacco to many foreign countries. In Europe especially these factors have been superseded by various controls exercised by the State, as indicated in the discussion that follows.

Monopolies.—In many foreign countries the tobacco industry is in the hands of a monopoly which exists as a branch of the government. Control usually extends from the regulation of production through the manufacture to the sale of the finished product. Under these conditions there is an absence of private manufacturers competing for trade on a quality-of-product basis. Therefore the likes and dislikes of consumers are less effective as an influence on maintenance of quality, and the leaf-buying policies of the State can be based on other considerations. These may be prices of raw material with little regard for quality, the desire to promote government trade policies, etc.

Fiscal Policy.—In practically all countries tobacco is an important source of revenue. In monopoly countries the profits from their manufacturing and selling operations belong to the State, and as a rule there are no import duties or excise taxes. In nonmonopoly countries one or both forms of taxation apply. Excise taxes may be so applied to different products as to be a strong influence on tobacco-consuming habits. For example, in Denmark prior to 1928 the consumption of cigars declined and cigarettes increased. In that year cigarette taxes were approximately doubled and cigar taxes decreased. As a result the trends of consumption were reversed.

Subsidized Leaf Production.—In some countries the production of tobacco is stimulated by government subsidies to growers, by requiring manufacturers to use specified proportions of home-grown leaf, or by exemptions from import duty on the foreign-leaf components of tobacco products containing specified proportions of domestic tobacco.

Another method of subsidizing production is provided by preferential duty rates, as in Great Britain. No tobacco is produced in England, but large quantities are produced in parts of the British Empire. This tobacco on entering England is given a lower rate of duty than tobacco from other countries, and large quantities of American leaf have been displaced thereby.

Import Quotas.—Quota and licensing systems have become widely applied to agricultural products in European countries. They are used to restrict or limit imports for protection of domestic production, control of trade balances, as retaliatory measures, or to encourage the conclusion or enforcement of trade agreements.

Exchange Control and Clearing Agreements.—Exchange control is a device used in some foreign countries whereby the central banking system is able to exercise rigid control over the uses for which foreign exchange may be obtained. This control extends to the classes and quantities of commodities which may be imported and the sources from which they may be obtained, and even as to those who may be permitted to import.

Clearing and Compensation Agreements.—These are more often referred to as barter agreements, and mean arrangements by which the trade between two countries can be conducted on the basis of exchange of goods and without the use of foreign exchange as a means of settlement. Barter agreements entered into by Germany during the decade of the 1930's were greatly detrimental to the domestic export trade in American tobacco.

War.—In times of war, a factor of far-reaching importance is provided by blockades interposed between the American producers and the countries to which they normally export their tobacco. Among the effects of such interruptions to the normal flow of exports are the following:

Prices to growers are immediately affected, sometimes requiring governmental action to sustain the market and prevent its collapse.

The tobacco may accumulate in American warehouses in such quantities as to swell stocks and create serious problems in the readjustment of production programs.

The countries affected may be forced to adopt substitute types of tobacco not affected by the blockade.

Here the greatest significance to American producers is in the long-time effects. Experience has shown that preferences in tobacco are largely a matter of established taste, and that the long-continued use of a given type tends to fix the consumer preference in that type. A blockade by which a country at war is denied access to American tobacco and by which it is forced into acceptance of a substitute type may in time bring about a preference for the substitute tobacco. The extent to which such a change in taste occurs will largely depend upon the duration of the enforced use of the substitute. Its importance lies in the fact that there is implied a permanent impairment of the foreign market previously enjoyed by the American producers.

Export statistics are presented herein on the basis of calendar years. It is to be noted, however, that the period during which a given year's production is exported does not usually correspond to the calendar-year basis but follows more nearly the marketing season. Tobacco exports are distributed throughout the year but are subject to seasonal variation. The marketing season for flue-cured tobacco, for example, begins about the last week in July or first week in August for type 14, produced in Georgia and Florida; early in August for type 13, South Carolina; late in August or early in September for type 12 in eastern North Carolina; and later in September for type 11 in North Carolina and Virginia. The exports of flue-cured tobacco are relatively small during the summer months and for a time after the opening of the market. A sharp increase usually occurs in September, indicating that the 1935 crop of flue-cured tobacco, for example, was exported during a period that began in September of that year and continued at least through August 1936. With respect to all types of which significant quantities are exported, it is safe to assume a lag of at least 1 month between the opening of the marketing season and the beginning of the export year. The marketing seasons for various types are shown in figure 36, p. 78.

Statistics on exports showing the quantities of tobacco and tobacco products sent to the principal importing countries are continued in tables 31 and 32.

TABLE 31.—*Exports of all leaf tobacco from the United States to principal importing countries, 1923–39* [1]

Importing country	1923	1924	1925	1926	1927	1928	1929	1930
	1,000 lb.	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*
United Kingdom	[2] 154,558	[2] 159,697	171,115	149,720	182,542	173,671	214,598	193,816
China	40,959	72,014	82,598	85,792	51,359	160,391	100,675	109,504
Germany	36,719	44,165	21,587	27,854	31,387	30,164	20,461	23,044
Italy	34,316	16,846	11,263	5,814	3,262	1,817	3,368	3,881
France	30,171	41,803	21,723	49,573	38,082	21,447	35,840	56,517
Belgium	33,789	24,442	14,255	21,592	26,293	15,679	13,752	16,609
Netherlands	27,713	41,625	20,803	29,566	27,483	23,788	21,731	23,273
Australia	23,344	20,652	22,577	23,356	19,812	21,167	19,915	28,739
Spain	16,288	31,931	15,031	1,483	20.829	17,036	12,929	1,058
Canada	11,357	15,708	11,956	15,508	15,394	16,097	14,511	14,146
Other	65,286	77,672	75,563	68,515	89,809	94,155	97,567	90,371
Total	474,500	546,555	468,471	478,773	506,252	575,412	555,347	560,958
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
United Kingdom	32.6	29.2	36.5	31.3	36.1	30.2	38.6	34.6
China	8.6	13.2	17.6	17.9	10.1	27.9	18.1	19.5
Germany	7.7	8.1	4.6	5.8	6.2	5.2	3.7	4.1
Italy	7.2	3.1	2.4	1.2	.6	.3	.6	.7
France	6.4	7.6	4.6	10.4	7.5	3.7	6.5	10.1
Belgium	7.1	4.5	3.0	4.5	5.2	2.7	2.5	3.0
Netherlands	5.8	7.6	4.4	6.2	5.4	4.1	3.9	4.1
Australia	4.9	3.8	4.8	4.9	3.9	3.7	3.6	5.1
Spain	3.4	5.8	3.2	.3	4.1	3.0	2.3	.2
Canada	2.4	2.9	2.6	3.2	3.0	2.8	2.6	2.5
Other	13.9	14.2	16.3	14.3	17.9	16.4	17.6	16.1

See footnotes at end of table.

TABLE 31.—*Exports of all leaf tobacco from the United States to principal importing countries, 1923–39* [1]—Continued

Importing country	1931	1932	1933	1934	1935	1936	1937	1938	1939 [3]
	1,000 lb.	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*	*1,000 lb.*
United Kingdom	157,467	121,606	172,869	180,022	216,194	206,550	203,326	262,284	112,908
China	148,635	68,586	69,369	53,627	15,842	30,627	36,687	46,791	39,797
Germany	18,425	18,305	13,803	12,702	14,862	7,705	8,239	8,448	6,988
Italy	4,076	2,205	1,660	2,142	843	324	1,270	826	610
France	29,655	36,602	24,695	21,935	19,136	19,969	22,615	21,183	20,126
Belgium	17,064	21,697	20,867	23,624	9,627	12,548	17,927	12,044	10,063
Netherlands	18,873	15,392	17,268	16,733	10,747	15,693	17,254	17,523	27,636
Australia	15,756	12,837	6,710	14,606	15,280	20,890	20,685	20,313	22,292
Spain	5,990	10,370	15,871	13,712	6,400	6,576	19	0	981
Canada	12,406	9,421	8,771	8,380	5,670	4,448	4,088	3,491	5,006
Other	75,199	70,745	68,535	71,500	66,581	81,480	85,649	79,951	80,809
Total	503,546	387,766	420,418	418,983	381,182	406,810	417,759	472,854	327,216
	Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
United Kingdom	31.3	31.4	41.1	43.0	56.7	50.8	48.7	55.5	34.5
China	29.5	17.7	16.5	12.8	4.2	7.5	8.8	9.9	12.2
Germany	3.7	4.7	3.3	3.0	3.9	1.9	2.0	1.8	2.1
Italy	.8	.6	.4	.5	.2	.1	.3	.2	.2
France	5.9	9.4	5.9	5.2	5.0	4.9	5.4	4.5	6.2
Belgium	3.4	5.6	5.0	5.6	2.5	3.1	4.3	2.5	3.2
Netherlands	3.7	4.0	4.1	4.0	2.8	3.9	4.1	3.7	8.4
Australia	3.1	3.3	1.6	3.5	4.0	5.1	5.0	4.3	6.8
Spain	1.2	2.7	3.8	3.3	1.7	1.6	(4)	.0	.3
Canada	2.5	2.4	2.1	2.0	1.5	1.1	1.0	.7	1.5
Other	14.9	18.2	16.2	17.1	17.5	20.0	20.4	16.9	24.6

[1] Includes "other leaf" which prior to Jan. 1, 1929, included small quantities of several types not reported separately, and beginning Jan. 1, 1929, Perique only.
[2] Includes Ireland; beginning 1925, Irish Free State is not included.
[3] Preliminary.
[4] Less than 0.05 percent.

Compiled from Foreign Commerce and Navigation of the United States.

TABLE 32.—*Exports of tobacco products from the United States, including shipments to noncontiguous territories, 1908–39*

Year beginning July	Cigarettes	Cigars and cheroots	Plug	Smoking	Other manufactured
	Millions	*Millions*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1908	1,622	13	6,386	(1)	(1)
Average 1909–13	1,831	11	6,810	2,496	(1)
Average 1914–18	6,848	19	5,632	4,748	(1)
Average 1919–23	12,773	26	4,078	4,716	[2] 1,103
Average 1924–28	9,852	10	3,907	2,441	666
Average 1929–33	4,439	7	2,649	1,998	307
1934	4,619	11	1,787	2,136	220
1935	5,393	14	1,925	2,067	244
1936	6,586	21	2,159	1,901	461
1937	7,405	22	2,228	1,661	866
1938	7,860	18	2,099	1,759	1,008
1939	8,871	19	2,097	1,820	1,247

[1] Reported in value only.
[2] Short-time average.

Bureau of Agricultural Economics. Compiled from Foreign Commerce and Navigation of the United States, 1908–17, and Monthly Summary of Foreign and Domestic Commerce of the United States, 1918 to date.

Limitations of Statistics.—The use of statistics on exports of tobacco to specified foreign countries is subject to several limitations. Tobacco is not always exported to the same country from which the order was received, but sometimes to a port or "free city" in another country where it may be held in customs storage. Furthermore, some tobacco is purchased by leaf dealers located at convenient foreign ports for later sale to manufacturers in other countries. The export statistics compiled in this country are necessarily compiled on the basis of information contained in the export declarations and these show as destinations the ports to which the shipments are made. The effect is to show quantities of tobacco exported to some countries which may be above or below the actual consumption therein. A similar situation arises in connection with imports, discussed on page 119.

Most of the exported leaf is held in storage for indeterminate periods before it is actually used by manufacturers, but, as already indicated, the storage is frequently in a country other than the one in which the leaf is to be used. Not only do dealers in the principal shipping centers hold their leaf in bonded warehouses in order that it may be readily available for resale to other countries, but the manufacturers also utilize bonded warehouse storage. By this method they avoid paying the import duty until the leaf is actually needed for manufacture. The most convenient storage centers are usually in the large seaports of western Europe. Most important are Amsterdam and Rotterdam, Holland; Bremen and Hamburg in Germany; Antwerp in Belgium; Copenhagen in Denmark; and to some extent English ports. From these ports the leaf moves on to other European countries as needed.

Therefore, the quantities actually used by the reshipping countries are usually much smaller than the quantities reported as exported to those countries or the quantities reported as having arrived in their ports. Conversely, the quantities actually used in such other countries as Switzerland, the Scandinavian countries, and the Baltic States are generally much greater than the quantities reported as having been exported to them. For instance, the quantity of United States leaf used in Switzerland is 50 to 75 percent larger than the quantity reported as exported from the United States to Switzerland. It includes tobacco exported to Belgium and reshipped.[20] Similarly the reported exports to Ireland during 1932 to 1936 averaged only about 4.4 million pounds, whereas the actual imports of United States leaf into Ireland amounted to nearly 12 million pounds annually during this period. Nearly two-thirds of Ireland's supply of United States leaf during this period was shipped to bonded warehouses in England and later reshipped to Ireland.

For still another reason statistics on domestic exports of tobacco to specified foreign countries will seldom if ever check with the import statistics of those countries. Most countries record tobacco as having been imported only when it is withdrawn from bonded storage and the duty is paid, and there may be a lag of as much as 2 years between the time the leaf is exported from the United States and the time it shows up in the import statistics of the consuming country. The United Kingdom, Sweden, and France are notable exceptions, since the United Kingdom and the tobacco monopolies in Sweden and France report "imports" when the tobacco arrives in the country, whether for immediate consumption or storage.

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[20] MINNEMAN, P. G. THE MARKET FOR AMERICAN TOBACCO IN SWITZERLAND. U. S. Dept. Agr., Foreign Agr. 3: 393–426, illus. [Processed.]

MEASURES OF TOBACCO CONSUMPTION

There are four measures of tobacco consumption, as follows:

- Supply and disappearance of tobacco according to type
- Quantities of tobacco used in the manufacture of tobacco products
- Quantities of tobacco products manufactured
- Consumption per capita of tobacco products

Each of these measures has its own particular usefulness and applications. An understanding of their characteristics and interrelationships is important. They are discussed in order.

SUPPLY AND DISAPPEARANCE

Tables of supply and disappearance are included in the statistics accompanying the discussion of tobacco types. They afford a means of measuring not only the annual increments to the supply of leaf tobacco available for manufacturing and export needs but also the amounts by which the supply is annually diminished. For this purpose the stocks of leaf on hand on a given date plus the crop of that year are taken to indicate the potential supply; potential supply less stocks 1 year later is taken to represent disappearance. Thus:

	Millions of pounds
(1) Production, 1937, ready for market	300
(2) Stocks of old tobacco on hand 10–1–37	500
(3) Total supply	800
(4) Stocks on hand, 10–1–38	400
Difference between (3) and (4) "disappearance"	400

For convenience in preparation of tables, the same data would be presented as follows:

Year	Production	Stocks Oct. 1	Total supply	Disappearance, year beginning Oct. 1
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1937	300	500	800	400
1938		400		

These figures are of great importance. Considered alone, changes in disappearance may, through a series of years, indicate a significant trend in the rate of consumption; but the trend of consumption, while increasing, may for a time increase at a slower or faster rate than the trend of production, resulting in either expanding or diminishing annual carry-over, in burdensome surpluses and low prices, or temporary shortages and high prices. It becomes necessary, therefore, to study the factors of production, supply, and disappearance not only in relation to themselves but in relation to each other. No study of price trends and of cycles of increasing and decreasing production should overlook these varying relationships.

Concrete application for tables of supply and disappearance is found in analyzing the present or prospective marketing condition pertaining to specific types of tobacco. This may be observed, for example, by reference to the table of supply and disappearance of Burley tobacco, page 27. It will be noted that prices (table 7, p. 26) tend to be highest when the total supply is lowest. It is clear, also, that in years when the production exceeds the disappearance the surplus is carried forward into the stocks as shown for the succeeding years. Thus augmented, the stocks constitute an increased burden and may jeopardize the marketing situation for the ensuing year, unless production is adjusted accordingly.

The factors of supply and disappearance are to be interpreted in the light of trends of consumption of the products manufactured from the types of tobacco under review. For example, the trend of disappearance of Burley tobacco has been consistently upward for a long period of years due to the fact that increased consumption in the form of cigarettes more than offsets decreased consumption in pipe smoking and chewing forms.

Another characteristic is to be noted with respect to supply and disappearance. The total supply may remain practically stationary, although significant changes may occur in the component parts of supply. Assume, for example, that the total supply in a given year is 800 million pounds, and is made up of production of 300 million pounds plus stocks amounting to 500 million pounds. It might ensue that in the following year total supply again totaled 800 million pounds, comprised of production of 200 million pounds, and stocks of 600 million pounds. Or, conversely, production might be greater and stocks less.

In analyzing price changes and marketing situations in general it will be found useful, therefore, to consider not only total supply in relation to elements in the demand situation, but, as indicated above, the factors within the supply situation. For example, the total supply of Burley tobacco as of October 1, 1933, was approximately 1,098 million pounds, which was not greatly different from the supply of October 1, 1934, of 1,073 million pounds. The average price in the former year was 10.5 cents per pound and in the latter year 16.9 cents per pound. Here three factors, omitting quality, influenced the prices paid: A moderate decrease in total supply, improving economic conditions with a consequent increase in cigarette consumption, and finally a highly significant decrease in production. This and similar instances point to the conclusion that as between years when the total supply is approximately stationary and there are no extraneous factors of importance, that year will present the higher prices in which the crop is significantly smaller; and conversely, in years when the crop is significantly larger, prices are likely to be depressed even though total supply remains substantially unchanged. Apparently the mere impact of a large crop tends to depress prices whereas the smaller offerings when the crop is low tend to stimulate prices.

TOBACCO STOCKS

Statistics are published quarterly on the quantity of leaf tobacco in the hands of dealers and manufacturers, according to type. The law applies only to those manufacturers who, according to the returns of the Commissioner of Internal Revenue, during the first three quarters of the preceding calendar year manufactured more than 35,000 pounds of tobacco or snuff, 185,000 cigars, or 750,000 cigarettes; and to all dealers, quasi manufacturers, growers' cooperative associations, warehousemen, brokers, holders or owners, except the original growers. Dealers and manufacturers coming within the provisions of the law are required to report their holdings as of January 1, April 1, July 1, and October 1. These reports, segregated and complied by types, are published as Stocks of Leaf Tobacco.

As to stocks of tobacco reported by dealers and manufacturers it should be noted: (1) Some of the tobacco is reported on the basis of weights marked on the hogshead or case, whereas some of it is reported on the basis of actual weight; (2) some tobacco reported on is stemmed and some unstemmed; and (3) the tobacco varies as to age, some being so new that it may not yet have been redried or sweated, although most of it no doubt has been; and some of it is 2 or more years old and has accordingly suffered material loss in weight through drying.

Stocks figures are now published in two ways, (1) as reported, with no correction for stemming and drying losses, and (2) on a "farm-sales-weight" basis, the extent of losses having been computed and added in (*22*). The farm-sales-weight basis corresponds to the basis of production statistics and is used in tables of supply and disappearance.

DISAPPEARANCE

Disappearance consists of (1) tobacco used domestically in the manufacture of products for human consumption, (2) tobacco exported for similar use abroad, and (3) tobacco diverted to byproducts uses (see p. 95).

Accurate segregation of disappearance figures according to exports and domestic consumption is not feasible at the present time, because of uncertainty as to the farm-sales-weight equivalent of tobacco exported. Statistics on tobacco exported are compiled from export declarations made to the United States Customs Service. These show the type or class of tobacco exported, the number of pounds and the value. The reports do not indicate whether the tobacco is unstemmed or stemmed, and the totals as published include varying and indeterminate percentages of each. Measures, however, have been adopted by the Bureau of Internal Revenue by which such a segregation may become possible. Also, the moisture content of tobacco varies for exports to some countries, thus making difficult the computation of shrinkage losses (*22*).

Quantities of Tobacco Used in Manufacture

Statistics of tobacco used in the manufacture of tobacco products are closely related, as a measure of consumption, to those of products manufactured, but they serve one purpose for which the second-named measure of consumption is not suitable. That is to say, they afford a basis of comparison as between products which are expressed in dissimilar units. Accurate comparisons are not afforded by the numbers consumed respectively of cigars and cigarettes, for example, because of the great disparity in size. Nor can the numbers of cigars and cigarettes be compared satisfactorily with pounds of chewing and smoking tobacco. The record of quantities of tobacco used in the manufacture of the broad classes of products has the effect of reducing them to a common denominator, facilitates comparisons between them, and serves other useful purposes in analytical studies. It is not possible, however, to narrow the comparisons down to such specific products as chewing tobacco, smoking tobacco, and snuff, for the reason that in reporting on tobacco so used all three are grouped under the heading Tobacco and Snuff.

Statistics on the consumption of leaf tobacco used in manufacture as compiled by the Commissioner of Internal Revenue are shown in table 33.

The significance of table 33 is emphasized by figure 44.

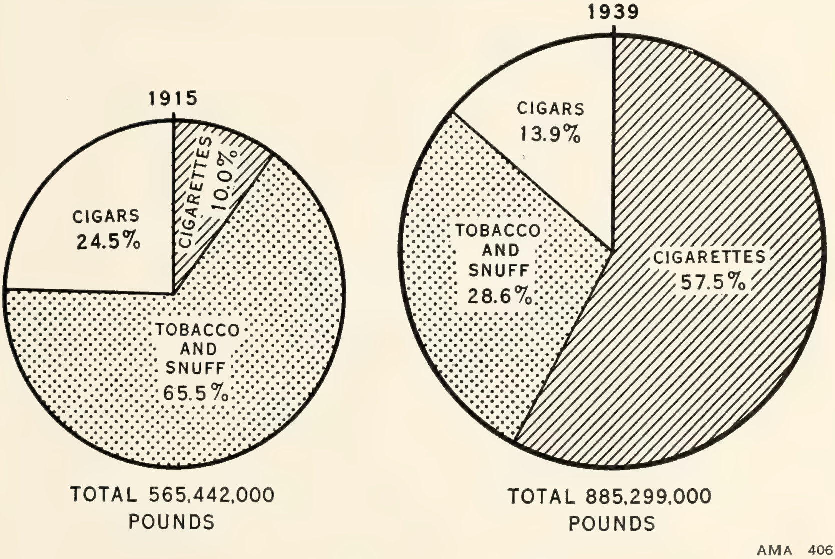

FIGURE 44.—The sizes of the circles are proportional to the total volume of tobacco consumed in the 2 years respectively. The classification Tobacco and Snuff includes both chewing and smoking tobacco.

The statistics in table 33 are based upon statements from manufacturers in which they account for the quantity of tobacco on hand at the beginning of the year, the quantity received during the year, and the quantity remaining on hand at the close of the year.

The reports from the manufacturers of smoking, chewing, and snuff tobacco show also the quantities of other materials used (table 34).

The data on leaf tobacco used in manufacture (table 33) are derived by converting the different items of tobacco mentioned above to their equivalents in unstemmed tobacco, for the purpose of accounting for tobacco from the time it leaves the farmers' hands until the tax has been paid. For this purpose an allowance of 25 percent is made for loss in weight in stemming or removing the midrib. No allowance is made for losses in weight due to drying, and for this reason the figures are not strictly comparable with statistics of tobacco production.[21]

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[21] See Losses in Weight of Tobacco, p. 78.

TABLE 33.—*Leaf tobacco used in the manufacture of cigars, cigarettes, and tobacco and snuff in the United States, 1915–40* [1]

Year	Cigars		Cigarettes		Tobacco and snuff	Total
	Large	Small	Large	Small		
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1915	134, 065	4, 032	91	56, 460	370, 794	565, 442
1916	145, 243	3, 647	102	78, 473	384, 875	612, 340
1917	153, 957	3, 775	130	113, 149	388, 570	659, 581
1918	146, 392	3, 446	209	145, 846	396, 121	692, 014
1919	148, 778	2, 726	151	166, 632	330, 097	648, 384
1920	166, 361	2, 236	138	146, 769	324, 478	639, 982
1921	140, 659	2, 569	135	158, 201	310, 687	612, 251
1922	149, 363	2, 346	142	169, 455	325, 510	646, 816
1923	157, 837	1, 915	157	200, 238	328, 889	689, 036
1924	151, 356	2. 057	138	217, 562	322, 745	693, 858
1925	147, 531	1, 471	145	244, 170	325. 109	718, 426
1926	151, 049	1, 322	109	267, 475	317, 399	737. 354
1927	151, 049	1, 461	96	290, 368	301, 314	744, 288
1928	149, 993	1, 297	88	310, 071	293, 176	754, 625
1929	150, 878	1, 251	93	346, 450	297, 954	796, 626
1930	136, 750	1, 151	65	347, 850	293, 990	779, 806
1931	126, 611	1, 017	43	329, 920	294, 813	752, 404
1932	103, 234	1, 054	18	299, 011	286, 817	690, 134
1933	103, 954	745	17	326, 076	279, 876	710, 668
1934	110, 203	920	882	374, 501	289, 024	775, 530
1935	113, 066	676	14	399, 444	262, 732	775, 932
1936	125, 875	703	12	453, 315	267, 462	847, 367
1937	127, 880	773	19	479, 943	264, 309	872. 924
1938	118, 162	590	14	483, 826	262, 710	865, 302
1939	122, 072	609	25	509, 108	253, 485	885, 299
1940	126, 309	526	14	535, 204	260, 663	922, 716

[1] The quantities given are unstemmed processing-weight equivalent of all kinds of tobacco used. Stemmed leaf and scraps, etc., used in manufacturing have been converted to unstemmed equivalent at the ratio of 3 pounds stemmed to 4 pounds unstemmed.

Compiled from reports of the Bureau of Internal Revenue.

In studying tables 33 and 34 with reference to weights of the leaf tobacco and other materials used and the weights of the manufactured products shown in table 35, the following important differences should be considered:

(1) In the manufacture of chewing and smoking tobacco the stems of the leaves are removed, although in table 33 the tobacco is reported in the unstemmed form. In the manufacture of snuff the tobacco is dried and ground, stems and all.

(2) In the manufacture of chewing and smoking tobacco large quantities of licorice, sugar, and other materials are used, but they are used to only a small extent in the manufacture of snuff.

TABLE 34.—*Materials used in the manufacture of smoking tobacco, chewing tobacco, and snuff, in the United States, 1920–40*

Year	Unstemmed leaf	Stemmed leaf	Scraps	In process	Stems	Licorice	Sugar	Other materials	Total
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1920	155, 128	90, 331	36, 681	17, 637	24, 220	39, 367	46, 478	33, 313	443, 155
Average 1921–30	152, 949	85, 817	33, 229	12, 858	15, 912	34, 845	47, 996	33, 949	417, 555
1931	160, 676	67, 574	33, 029	7, 684	16, 699	28, 514	44, 473	30, 926	389, 575
1932	163, 910	63, 647	28, 533	11, 239	16, 648	23, 549	37, 687	27, 254	372, 467
1933	169, 316	55, 025	27, 895	10, 669	16, 258	23, 026	34, 985	27, 176	364, 350
1934	171, 208	58, 808	29, 554	8, 399	17, 117	24, 337	37, 916	28, 423	375, 762
1935	151, 381	52, 565	30, 948	20, 343	17, 781	23, 535	38, 257	27, 688	362, 498
1936	155, 672	54, 604	29, 238	21, 773	16, 372	23, 978	39, 180	29, 910	370, 727
1937	152, 167	54, 124	29, 983	19, 024	15, 795	23, 881	37, 993	28, 644	361, 611
1938	147, 927	54, 598	31, 489	23, 027	15. 703	22, 439	38, 804	27, 754	361, 741
1939	142. 369	52, 759	30, 578	31, 182	17, 834	21, 757	37, 063	27, 385	360, 927
1940	156, 396	48, 865	29, 335	23, 506	17, 893	21, 334	33, 751	28, 224	359, 304

Compiled from annual reports of the Commissioner of Internal Revenue.

(3) In the manufacture of most chewing and smoking tobacco, the manufactured weights materially exceed the weight of unstemmed leaf tobacco used in manufacture. Snuff, on the contrary, weighs less than the tobacco and stems used in its production, though more than the leaf component.

(4) The figures represent tobacco used regardless of type and include leaf of both domestic and foreign growth.

Because of the extraneous materials, the weight of chewing, smoking, and snuff-tobacco products considered as a group exceeds the weight of the unstemmed tobacco used in their manufacture by from 20 to 30 percent.

There is no rule by which the respective quantities of chewing and smoking tobacco shown in table 35 can be accurately converted into leaf-tobacco equivalents. Practically all the materials reported in table 34 under the heads of licorice, sugar, and other materials are used in the manufacture of these tobaccos and relatively little of them in snuff. The actual quantity of tobacco present in chewing and smoking products, if stemming losses are deducted, appears to be slightly less than 60 percent of the total weight of the manufactured product. The proportion of flavoring and sweetening material varies for different products. It is probably greatest in plug chewing tobacco, and least, if not entirely absent, in granulated smoking tobacco. There is some basis for assuming, also, that the percentage of extraneous materials used in manufacture is influenced by tobacco prices. That is, the percentage appears to be lowest in years when prices of leaf tobacco are very low, and greatest when tobacco prices are high.

A fairly accurate estimate can be made of the quantity of leaf tobacco used in snuff. Although manufacturers' formulas vary widely, on the average the materials used are approximately as follows:

	Pounds
Unstemmed tobacco	76
Tobacco stems	21
Licorice, sugar, and other materials	3

One hundred pounds of these materials will produce approximately 80.8 pounds of snuff; the quantity is smaller if the snuff is dry, and larger if the snuff is moist. On the average, 100 pounds of unstemmed tobacco is used in the manufacture of 106 pounds of snuff and this figure provides a fairly accurate index for interpreting reports of snuff manufactured annually in terms of leaf tobacco consumed, that is, total pounds of snuff divided by 1.06 may be taken to represent leaf tobacco so used.

Quantities of Tobacco Products Manufactured

The annual production of tobacco products in the United States from 1880 to 1939 is shown in table 35. Although there is some export and import trade in these products, the volume in proportion to the total is so small that these figures are approximately indicative of consumption. More precise statistics of consumption are afforded by "withdrawals," that is, the sales of the internal revenue stamps affixed to all packages or containers of tobacco products sold in the United States or its possessions.

TABLE 35.—*Cigars, cigarettes, chewing tobacco, smoking tobacco, and snuff manufactured in the United States, 1880–1940*

Year	Cigars		Cigarettes		Chewing				Smoking	Snuff	Total chewing, smoking, and snuff
	Large	Small[1]	Large[2]	Small	Plug	Twist[3]	Fine-cut	Scrap[4]			
	Millions	*Millions*	*Millions*	*Millions*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*	*Million pounds*
1880	2, 509. 7	--------	--------	532. 7	89. 8	--------	17. 3	--------	35. 3	4. 0	146. 4
1881	2, 805. 8	--------	--------	594. 6	108. 3	--------	18. 9	--------	40. 8	4. 5	172. 5
1882	3, 117. 9	--------	--------	598. 8	96. 0	--------	15. 8	--------	42. 1	5. 0	158. 9
1883	3, 231. 8	--------	--------	844. 0	124. 6	--------	16. 0	--------	47. 7	5. 6	193. 9
1884	3, 373. 0	--------	--------	920. 3	104. 4	--------	16. 6	--------	45. 2	6. 1	172. 3
1885	3, 293. 7	--------	--------	1, 079. 5	130. 8	--------	18. 1	--------	51. 7	6. 5	207. 1
1886	3, 462. 0	--------	--------	1, 607. 3	131. 2	--------	17. 0	--------	55. 2	6. 6	210. 0
1887	3, 661. 6	--------	--------	1, 865. 3	140. 0	--------	17. 7	--------	60. 5	8. 2	226. 4
1888	3, 668. 2	--------	--------	2, 211. 9	130. 6	--------	14. 5	--------	58. 8	5. 5	209. 4
1889	3, 787. 2	--------	--------	2, 413. 4	156. 6	--------	16. 5	--------	64. 1	9. 0	246. 2
1890	4, 228. 5	--------	--------	2, 505. 2	156. 0	--------	17. 6	--------	69. 8	9. 5	252. 9
1891	4, 422. 0	--------	--------	3, 137. 3	166. 2	--------	17. 0	--------	76. 6	10. 6	270. 5
1892	4, 674. 7	--------	--------	3, 282. 0	171. 1	--------	16. 2	--------	75. 1	11. 4	273. 8
1893	4, 341. 2	--------	--------	3, 660. 8	147. 9	--------	14. 2	--------	76. 4	12. 0	250. 5
1894	4, 163. 6	--------	--------	3, 620. 7	160. 0	--------	13. 7	--------	83. 3	11. 6	268. 6
1895	4, 099. 1	--------	--------	4, 237. 8	167. 8	--------	13. 3	--------	82. 3	10. 9	274. 3
1896	4, 048. 5	--------	--------	4, 967. 4	153. 4	--------	11. 8	--------	83. 5	12. 7	261. 4
1897	4, 135. 6	295. 5	--------	4, 631. 8	185. 7	--------	12. 1	--------	85. 5	13. 8	297. 1
1898	4, 458. 8	456. 8	1. 7	4, 384. 0	160. 9	--------	11. 4	--------	89. 2	13. 6	275. 1
1899	4, 909. 6	622. 3	2. 6	3, 742. 4	165. 7	--------	11. 7	--------	102. 5	14. 7	294. 6
1900	5, 565. 7	610. 9	4. 6	3, 254. 1	173. 9	--------	11. 5	--------	101. 5	13. 8	300. 7
1901	6, 139. 4	775. 2	5. 2	2, 723. 0	172. 5	--------	11. 7	--------	112. 2	17. 5	313. 9
1902	6, 231. 7	676. 1	10. 1	2, 961. 2	185. 7	--------	12. 1	--------	131. 1	18. 7	347. 6
1903	6, 806. 0	592. 4	6. 4	3, 360. 1	180. 2	2. 3	11. 9	--------	134. 4	22. 7	351. 5
1904	6, 640. 5	736. 2	7. 1	3, 426. 9	163. 4	8. 8	12. 1	--------	149. 2	20. 2	353. 7
1905	6, 747. 9	803. 6	6. 9	3, 666. 8	156. 8	10. 1	11. 7	--------	165. 2	23. 7	367. 5
1906	7, 147. 5	989. 8	10. 7	4, 501. 3	165. 1	11. 7	12. 7	--------	175. 7	26. 1	391. 3
1907	7, 302. 0	1, 074. 1	15. 0	5, 255. 6	159. 7	12. 2	12. 5	--------	179. 2	24. 2	387. 8
1908	6, 488. 9	1, 072. 5	17. 7	5, 742. 8	164. 7	14. 5	12. 1	--------	192. 2	24. 0	407. 5
1909	6, 667. 8	1, 043. 0	17. 8	6, 818. 9	173. 4	14. 6	12. 5	--------	202. 4	28. 5	431. 4
1910	6, 810. 1	1, 118. 1	19. 4	8, 644. 3	174. 3	14. 6	12. 9	--------	214. 1	31. 4	447. 3
1911	7, 048. 5	1, 213. 8	17. 1	10, 469. 3	160. 9	13. 9	11. 0	--------	209. 4	28. 9	424. 1
1912	7, 044. 3	1, 055. 2	16. 6	13, 167. 1	160. 3	15. 5	11. 0	--------	217. 3	31. 4	435. 5
1913	7, 571. 5	959. 4	15. 1	15, 555. 7	164. 4	14. 9	10. 9	--------	220. 8	32. 9	443. 9
1914	7, 174. 2	1, 074. 7	13. 9	16, 855. 6	156. 5	16. 0	10. 9	--------	226. 9	30. 6	440. 9
1915	6, 599. 2	965. 1	15. 8	17, 964. 3	150. 7	14. 8	10. 1	--------	234. 9	31. 9	442. 4
1916	7, 042. 1	890. 5	22. 2	25, 290. 3	165. 6	16. 0	10. 9	--------	239. 7	34. 0	466. 2
1917	7, 559. 9	967. 2	24. 6	35, 331. 3	179. 4	15. 2	11. 3	--------	243. 6	33. 5	483. 0
1918	7, 053. 5	847. 5	23. 4	46, 656. 9	174. 7	17. 5	9. 8	--------	257. 9	37. 2	497. 1
1919	7, 072. 4	713. 2	31. 9	53, 119. 8	141. 0	11. 3	8. 2	--------	228. 6	35. 0	424. 1
1920	8, 096. 8	633. 2	28. 0	47, 430. 1	138. 5	11. 8	8. 7	--------	219. 3	34. 3	412. 6
1921	6, 726. 1	670. 5	14. 5	52, 085. 0	113. 4	9. 3	6. 9	--------	222. 7	34. 7	387. 0
1922	6, 722. 4	632. 9	17. 4	55, 763. 0	120. 2	10. 9	6. 9	--------	243. 4	38. 1	419. 5
1923	6, 950. 2	505. 3	18. 1	66, 715. 8	120. 8	10. 7	7. 1	--------	235. 0	39. 2	412. 8
1924	6, 597. 7	530. 7	16. 1	72, 709. 0	111. 5	9. 9	6. 8	--------	247. 0	39. 0	414. 2
1925	6, 463. 2	447. 1	17. 4	82, 247. 1	111. 4	9. 7	7. 2	--------	247. 7	37. 9	413. 9
1926	6, 498. 6	412. 3	13. 2	92, 097. 0	109. 8	9. 2	7. 0	--------	246. 4	38. 2	410. 6
1927	6, 519. 0	439. 4	11. 4	99, 809. 0	103. 9	8. 0	6. 3	--------	237. 9	40. 2	396. 3
1928	6, 373. 2	415. 5	10. 4	108, 705. 5	100. 6	8. 9	5. 2	--------	231. 1	40. 5	386. 3
1929	6, 518. 5	419. 9	10. 0	122, 392. 4	96. 7	8. 2	5. 6	--------	229. 6	41. 1	381. 2
1930	5, 893. 9	383. 1	7. 4	123, 802. 2	86. 3	7. 6	5. 1	--------	232. 0	40. 8	371. 8
1931	5, 347. 9	339. 0	5. 2	117, 062. 5	76. 6	6. 4	4. 2	61. 2	182. 9	39. 9	371. 2
1932	4, 382. 7	278. 7	3. 4	106. 632. 4	61. 9	4. 9	3. 4	50. 1	191. 0	36. 0	347. 3
1933	4, 300. 0	209. 5	2. 8	114, 874. 2	61. 4	5. 0	3. 1	44. 7	191. 8	36. 1	342. 1
1934	4, 525. 8	222. 0	88. 2	129, 976. 3	62. 7	5. 1	3. 0	44. 8	193. 1	36. 9	345. 6
1935	4, 685. 4	177. 8	2. 5	139, 966. 2	60. 6	5. 6	4. 7	44. 0	191. 7	36. 1	342. 7
1936	5, 172. 3	180. 0	2. 5	158, 894. 0	59. 2	6. 4	5. 1	45. 3	194. 0	38. 0	348. 0
1937	5, 303. 4	198. 6	3. 1	169, 969. 3	58. 3	6. 8	5. 0	45. 6	187. 8	37. 1	340. 6
1938	5, 014. 8	153. 0	2. 6	171, 686. 4	54. 5	5. 6	4. 6	42. 8	200. 7	37. 2	345. 4
1939	5, 197. 6	156. 9	4. 4	180, 666. 8	51. 3	5. 7	4. 7	41. 3	202. 3	38. 0	343. 3
1940	5, 235. 3	134. 7	2. 2	189. 371. 3	48. 7	5. 6	4. 2	42. 9	205. 1	37. 9	344. 4

[1] Prior to 1897, included in small cigarettes.
[2] Prior to 1898, included in small cigarettes.
[3] Prior to 1903, included in plug tobacco.
[4] Prior to 1931, included in smoking tobacco.

Compiled from reports of the Bureau of Internal Revenue.

Statistics on total manufactures are useful in connection with those on leaf tobacco used in manufacture, and for numerous other purposes such as the relationship of tobacco consumption to economic welfare.

Changes in individual consumption habits are somewhat obscured by effects on total quantities growing out of changes in population. This is brought out more clearly in the next section.

Consumption Per Capita

The two measures of consumption of manufactured tobacco products—total and per capita—should be considered together for a more complete understanding of the economic aspects of tobacco consumption. Because of the effect of increasing population, the total consumption of a commodity may continue to expand for a considerable period after a downward trend has begun in the consumption per capita. Such a downward trend may in fact mark the initial stages of declining popular favor in that particular commodity and be of greatest significance to producers and others concerned. Yet, until the movement has gathered considerable momentum, its presence and effects may be obscured by further increases in total consumption resulting from increases in population.

An example of the above point is provided by statistics of the consumption of cigars and chewing tobacco. The high point in annual per capita consumption of cigars was reached in 1907 when it amounted to 86.4 cigars. Since that time the consumption of cigars per capita has fluctuated up and down, mostly down. The low point of 36.5 was reached in 1933. With improving economic conditions consumption has increased since that year (table 36).

The high point in total cigars manufactured, which is roughly equivalent to consumption, was reached in 1920, 13 years after the turning point indicated in the table on per capita consumption. Since 1920 the effects of increasing population have not been sufficient to offset the effects of decreasing consumption per capita, and the trend of total consumption has been downward.

In chewing tobacco, as in cigars, the decline of the industry was foreshadowed by the decrease in consumption per capita years before the statistics of total manufactures registered a downward trend. In 1890 the per capita consumption of chewing tobacco, other than scrap chewing, reached its high point (2.8 pounds), since which time there has been an almost uninterrupted decline. Yet the high point in total manufactures was not reached until 1917 when 205,874,000 pounds of plug, twist, and fine cut chewing tobacco were manufactured. Since that time the decline has been so rapid that in 1940 manufactures amounted to only 58,540,570 pounds, a decrease of 71.5 percent in 23 years.

Changes in per capita consumption may occur in various ways, such as increases or decreases in the quantities that actual tobacco users consume, or changes in the ratio of actual smokers (using the term to include all tobacco users) to total population, and possibly also changes in the form in which tobacco is consumed. As to the latter, one study [22] indicates strongly that the average cigarette smoker consumes less tobacco per day or year than a cigar smoker or chewer. The same comparison probably holds as between cigarette and pipe smokers. There may be a physiological basis for this in the practice of inhaling cigarette smoke. Owing to the high percentage of ingredients other than tobacco present in chewing tobacco, especially plug, comparisons of per capita consumption of individual products according to their manufactured weight are somewhat distorted.

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[22] Statistical study, as yet unpublished, by Charles J. Shohan, formerly of the Bureau of Agricultural Economics.

There is no actual measure of the ratio of smokers to total population, but it is common knowledge that changes in the ratio have occurred. The most important factor in this was the great increase of smoking among women beginning about 1915. An additional factor which may not be so well understood lies in the changing ratio to the total population of the group of individuals of smoking age. The advent of widespread smoking by women meant only that within a certain age group, say 20 years or older, many potential smokers became actual smokers.

This discussion is about the factors that affect the ratio to total population of the age group which includes both actual and potential smokers. For various uses population statistics are broken down into several age groups, including some comprised of children obviously not of smoking age. For present purposes it may be assumed that individuals 20 years of age or over are either actual or potential smokers, and, as a rather strained corollary, that persons under 20 do not use tobacco. In computing per capita consumption of tobacco, however, the total population is used as the divisor. If the consumption as thus computed is to be strictly comparable one year with another, it becomes important to consider whether the relative importance of the respective age groups has remained reasonably constant. Factors affecting the age distribution in population statistics which bear directly upon this question of comparability are the decreasing death and birth rates.

The effect of a progressive decrease in the death rate is to leave larger numbers, year by year, remaining in the ranks of actual or potential smokers. It is a change that has been progressing slowly over a long period of years. The decreasing birth rate, on the contrary, has the effect of diminishing the ranks of those too young to smoke. This change is of much more recent development and supplements the decreasing death rate in its effect on per capita consumption computations. Their combined effect on the age-group comparisons has been especially significant since 1930. For example, in 1930, 61.2 percent of the total population was 20 years of age or older; by 1940 this group had increased to 65.5 percent. The effect of changes of this kind on tobacco consumption may be illustrated as follows: Assume that for 2 years under comparison the total population remained unchanged, and that the average rate of consumption within the group of 20 years or over likewise remained unchanged. Then any change in total per capita consumption would be due to a change in the relative importance of that age group. For example:

Population group	*Year X* *Million persons*	*Year Y* *Million persons*
(1) Nonsmoking age—19 years or under	40	30
(2) Smoking age—20 years or over	90	100
Total population	130	130
	Pounds of tobacco	*Pounds of tobacco*
Per capita consumption within group 2	5	5
Total consumption	450, 000, 000	500, 000, 000
Per capita consumption based on total population	3. 46	3. 85

These considerations do not invalidate per capita consumption statistics but suggest a reservation in their use, for reasons which may be of increasing importance in the future. The declining birth rate, if the present trend be long continued, seems to portend an ultimate decline in total population, the far-reaching consequences of which are likely to include marked changes in the production and consumption of tobacco.

Table 36 shows the annual consumption of manufactured tobacco products per capita at 5-year intervals from 1900 to 1930 and annually to 1940.[23]

TABLE 36.—*Per capita consumption of tobacco products in the United States, specified years*

Year [1]	Large cigars	Small cigarettes	Cigars [2]	Cigarettes [2]	Chewing tobacco [3]	Smoking tobacco [3]	Snuff	Total
	Number	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
1900	70.5	34.9	1.33	.14	2.64	1.06	0.20	5.37
1905	82.3	40.4	1.59	.15	2.49	1.52	.25	6.00
1910	76.7	93.7	1.59	.34	2.71	1.76	.34	6.74
1915	71.4	180.6	1.58	.67	2.36	1.77	.33	6.71
1920	79.8	418.8	1.87	1.56	2.05	1.36	.34	7.18
1925	60.3	696.1	1.39	2.07	1.79	1.45	.33	7.03
1930	50.1	972.0	1.17	2.73	1.35	1.32	.33	6.90
1931	45.3	914.2	1.08	2.58	1.18	1.46	.32	6.62
1932	37.5	828.9	.89	2.32	.97	1.53	.29	6.00
1933	36.5	888.7	.89	2.53	.90	1.52	.29	6.13
1934	38.4	992.0	.94	2.87	.91	1.52	.29	6.53
1935	39.5	1,055.0	.96	3.01	.89	1.49	.28	6.63
1936	42.0	1,192.7	1.03	3.40	.90	1.51	.29	7.13
1937	42.8	1,258.2	1.04	3.55	.89	1.44	.28	7.20
1938	40.9	1,256.9	.97	3.54	.82	1.53	.29	7.15
1939	42.0	1,315.6	.99	3.71	.78	1.53	.29	7.30
1940 [4]	42.2	1,369.7	.99	3.86	.78	1.53	.29	7.45

[1] Available data 1900–1905 do not include tax-paid products from the Philippine Islands and Puerto Rico and are for the fiscal year beginning July; 1910–38 data include tax-paid products from the Philippine Islands and Puerto Rico and are for the calendar year. In the former group, January population was used, whereas in the latter group July population was used to determine the per capita consumption.

[2] Pounds of cigars and cigarettes represent unstemmed equivalent of tobacco used in the manufacture of these products, as reported in the annual reports of the Commissioner of Internal Revenue. Both large and small cigars and large and small cigarettes are included.

[3] Tax-paid withdrawals of manufactured tobacco have been separated into chewing tobacco and smoking tobacco in proportion to production of these two products. Scrap chewing tobacco, which was not reported separately prior to 1931, has been estimated from 1900 to 1930.

[4] Preliminary.

Bureau of Agricultural Economics. Compiled from tax-paid withdrawals in the United States (including tax-paid withdrawals of tobacco products from the Philippine Islands and Puerto Rico) reported in monthly statements by the Commissioner of Internal Revenue, and population from reports of the Bureau of the Census.

EFFECT OF TOBACCO-CONSUMING HABITS ON GEOGRAPHY OF TOBACCO PRODUCTION

Tobacco-consuming habits [24] are marked by great stability in the sense that they are not subject to sudden change. In the long time sense they are relatively unstable, partly as a result of changing preferences of those already numbered among the consuming class, and perhaps in larger part because of rising generations whose preferences differ from those of the dwindling numbers in the older generations.

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[23] This table is based on manufactures. Because of exports and imports, a slight error is introduced in using these figures as measures of consumption, which is more accurately reflected by the sales of internal revenue stamps. Statistics of the latter, however, are not available over a sufficient period of years for the present purpose. The slight errors involved are believed to be reasonably constant from year to year, and the computations of per capita consumption are believed to be comparable.

[24] For the purpose of this discussion the term "consuming habits" is used broadly to include not only the preferences of Americans but of foreign peoples which provide a market for American tobacco.

The general direction of change has been from "strong" tobacco to "mild", from chewing to pipe smoking, from cigars to cigarettes, from dark, heavy-bodied types to lighter types. These changes may be associated in some degree with the changes that have taken place in conditions of employment and modes of life. From a predominantly agricultural nation we have become largely industrial. Increasing numbers of people work indoors, in factories, shops, offices. There has been a notable shift from rural to urban living conditions. The tobacco the system could tolerate under the robust outdoor life becomes too strong under more confining conditions.

Broad changes in tobacco-consuming habits have motivated changes in cultural and curing practices in the search for milder tobacco. More significantly they have had a profound effect upon the geography of tobacco production as soil types were found which could better meet the requirements for tobacco production.

The geography of tobacco production has from colonial times been in a process of constant readjustment to the gradually changing requirements of consumer demand. The reasons for, and methods of, such readjustment may be summarized as follows:

(1) Since those areas predominate which can produce tobacco suitable for the products currently most popular, a shift in popular demand inevitably brings about corresponding increases or decreases in the size and importance of the type areas affected. As to the more favored area, increasing demand brings prices that stimulate expanded production. As to the less favored area, as effective demand decreases, prices tend to become unprofitable except as production is readjusted to the smaller consumption requirements.

(2) The necessary readjustment may be accomplished within a given area by changes in the method of curing the tobacco. Historically, this was the cause which induced the development, first of fire-curing where air-curing had been universal, later the evolution of fire-curing into flue-curing in portions of the same district, and finally a reversion to air-curing in still other portions. It is important to note that although these changes in curing methods occurred within a small area where air-curing previously was universal, they had the effect of differentiating tobacco into very distinct types. Further, that these types reached their ultimate development only as the right combinations of soil, climatic conditions, varieties of seed, cultural treatment and curing methods were attained. This explains the present relative inflexibility of particular districts as to the types of tobacco which can be grown therein. (See p. 3.)

(3) Within certain type districts—notably flue-cured and Burley—readjustments have been made to changing consumer preferences by changes in cultural practices. These types were at first used principally in the manufacture of chewing tobacco, for which heavy-bodied and rather strong tobacco is desired. Later chewing became less popular and cigarette smoking came into prominence. This created a rising demand for thinner and milder grades of tobacco, accompanied by a decreasing demand for heavy leaf grades. In tobacco production it is found that wide spacing of the plants in the field and low topping tend to result in relatively thick leaves; and that closer planting and higher topping tend to result in thinner leaves. By this means and by systematic breeding and selection, flue-cured and Burley have been modified in the direction of thinner, milder tobacco. Flue-cured has become the preeminent cigarette tobacco of the world.

From the foregoing discussion it will be seen that the changes in modes of consumption that have occurred and are still in progress are fundamental in their economic significance. Types which in years gone by dominated the domestic export trade in tobacco have lost some of their foreign markets completely and other markets partially. On the other hand, types favored by the world-wide trend toward cigarette consumption have been in demand to an extent undreamed of a few years ago. Whereas the scale of tobacco production in some sections has shrunk to a fraction of its former size, in other sections more and more land has been given over to this crop. For example, in 1909, approximately 341,900 acres of flue-cured tobacco were grown in the United States; the acreage in 1928, 1929, and 1930, and again in 1938 exceeded 1,000,000 acres. Other types have increased or decreased in greater or less degree according to whether there has been an increase or decrease in consumption of the products manufactured therefrom. This is shown in table 37.

Cigarette types increased 128 percent in total acreage, and from 54 percent of the total during 1909–13 to 84 percent of the total during 1935–39. Fire-cured and dark air-cured types decreased 50 percent in acreage, and from 30 to 10 percent of total acreage. Cigar types lost 48 percent in acreage, and dropped from 16 to only 6 percent in relation to the total acreage.

The significance of a study of the consuming habits of a nation lies chiefly in its import as to future requirements for the commodities studied, and the effect of changing requirements upon farm practices over wide areas. The figures that have been presented indicate that changes in tobacco-consuming habits are still in progress.

TABLE 37.—*Comparison of acreage of types of tobacco grouped according to primary manufacturing uses, 1909–13 and 1935–40*

Group	1909–13		1935–40		Increase (+) or decrease (−) in acreage
	1,000 acres	*Percent*	*1,000 acres*	*Percent*	*Percent*
Cigarette types [1]	605.0	54	1,381.6	84	+128
Fire-cured and dark air-cured types [2]	335.5	30	166.9	10	−50
Cigar types [3]	176.5	16	91.3	6	−48
Total	1,117.0	100	1,639.8	100	+47

[1] Includes flue-cured, Burley, and Maryland types, all of which contribute to the supply of cigarette tobacco as well as to the supplies used in the manufacture of chewing and smoking tobacco.

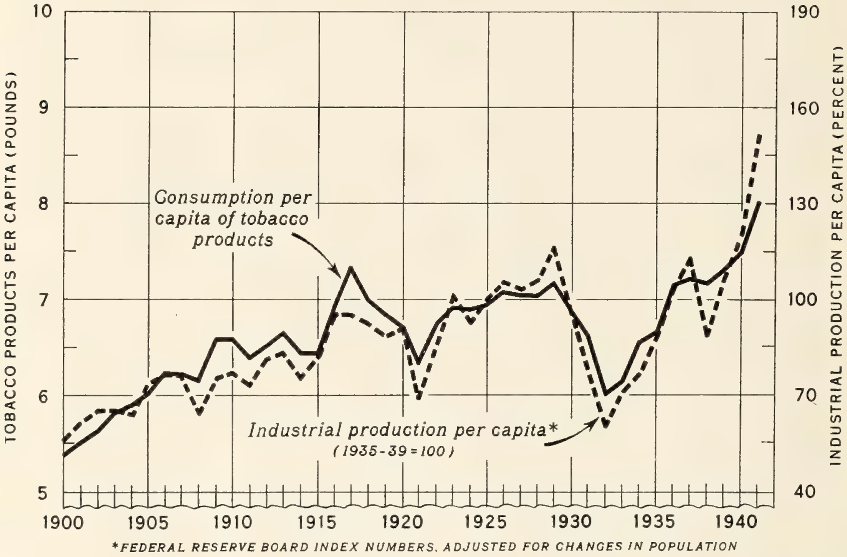
[2] Includes types which are used in the production of chewing and smoking tobacco and snuff. Types in the first and second groups also comprise practically all the domestic exports, their uses abroad being generally the same as their domestic uses.

[3] Includes types used only in the manufacture of cigars and scrap chewing.

No one can foretell how long the present trends of consuming habits will endure, nor when or how these trends will be given new direction. Yet, records of the past are convincing evidence that however long the duration of a Nation-wide tobacco habit, however long the period during which popular fancy turns more and more to that habit, eventually the time comes when interest in it begins to wane and another mode of consumption rises to dominance. It is difficult at this time to conceive of an entirely new method of using tobacco, but it cannot be assumed there will not be an eventual revival in some one of the modes that at present seem to have been eclipsed by the cigarette habit. Such a development does not seem likely to occur for a long time to come, however, for a review of the history of tobacco-consuming habits indicates that there has been a consistent trend away from products "strong" in character, some of which have come to be regarded as socially unacceptable, and towards products of a milder nature. This view suggests relative permanence of the cigarette habit in particular.

Even should the number of cigarettes consumed per person reach its peak and become stationary, or possibly decline, the normal increase in total population would ordinarily cause an increase in the total number of cigarettes consumed. Not until the per capita consumption shows a permanent decline and that decline becomes so pronounced as to outweigh the effect of increasing population can it be said that the requirements for cigarette types of tobacco are on the downgrade.

Times of serious economic depression have observable effects upon the form and rate of tobacco consumption. This is clearly shown in figure 45, which illustrates the relationship between industrial activity and tobacco consumption. For example, the depression of 1920 resulted in a material decrease in the consumption of cigarettes. Thereafter cigarette consumption increased at an average annual rate of about 11 percent until the early part of 1931. At that time the depression was becoming serious, and by 1932 cigarette withdrawals had decreased to 103.6 billions, or more than 13 percent below 1930. During the same period the decline in cigar consumption already in evidence was accelerated by the reduced purchasing power of consumers. From 1933 to 1936 improved economic conditions led to increased cigar consumption. On the other hand, during 1931 and 1932, when conditions were especially bad and cigars and cigarettes were showing their greatest declines, the consumption of smoking tobacco in pipes and hand-rolled cigarettes increased materially. It is clear that in times of widespread unemployment there is a tendency either to use less tobacco, or to consume tobacco in a less expensive form.



*FEDERAL RESERVE BOARD INDEX NUMBERS, ADJUSTED FOR CHANGES IN POPULATION

BAE 24111

FIGURE 45.—This chart shows the intimate relationship between the per capita consumption of tobacco products, considered as a total, and industrial production per capita. The statistics of individual products entering into total tobacco consumed indicate that in times when great industrial activity creates widespread employment, consumption runs strongly to cigarettes and cigars; and conversely, in times of slackness in industry and widespread unemployment, consumers not only consume less tobacco, but shift noticeably to less expensive tobacco products.

IMPORTS

Tobacco imported into the United States from foreign countries is of two general classes: (1) Cigarette tobacco, consisting of the so-called Turkish or oriental varieties, and (2) cigar tobacco. In addition, large quantities of cigar tobacco are shipped in from some of the insular possessions, mainly Puerto Rico and the Philippine Islands.

The cigarette tobacco comes mainly from Turkey, Greece, and Bulgaria and is usually referred to as Turkish or oriental. Several other countries of southeastern Europe and the Near East export small quantities of tobacco to the United States. Oriental tobacco is not regarded as competitive with American-grown types. Rather, by its aromatic qualities it supplements American types and is included in the blends of nearly all the popular brands of cigarettes.

TABLE 38.—*Imports of leaf tobacco by countries, into the United States, including shipments from noncontiguous territories, 1923–39* [1]

Class and country from which imported	Year beginning July								
	1923	Average 1924–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Cigar wrapper:									
Netherlands	6,220	6,127	3,812	1,911	1,750	2,695	1,518	1,799	2,059
Cuba	32	112	86	110	139	211	183	186	153
Other countries	162	38	10	0	1	(3)	0	0	0
Total	6,414	6,277	3,908	2,021	1,890	2,906	1,701	1,985	2,212
Cigar leaf (filler):									
Unstemmed:									
Cuba	7,814	7,765	4,798	4,191	5,234	4,419	3,487	2,250	2,259
Other countries	4,936	402	5	(3)	1	1	0	0	3
Total	12,750	8,167	4,803	4,191	5,235	4,420	3,487	2,250	2,262
Stemmed:									
Cuba	10,441	14,138	9,947	6,465	9,285	6,448	6,598	7,604	8,918
Puerto Rico	19,835	22,045	14,787	16,645	18,616	18,964	16,376	15,530	12,551
Other countries	591	13	11	0	0	0	0	0	63
Total	30,867	36,196	24,745	23,110	27,901	25,412	22,974	23,134	21,532
Cigarette leaf:									
Greece	11,975	20,557	16,065	17,959	19,006	20,233	18,628	18,892	17,297
Italy	3,064	12,049	9,576	5,882	5,985	4,577	753	652	667
Turkey in Europe and Asia	1,917	13,313	12,597	12,425	15,982	19,799	20,509	27,592	26,144
Belgium	(4)	(4)	(4)	994	1,231	635	1,133	228	41
Germany	1,745	787	155	28	162	300	664	494	(3)
Egypt	(4)	(4)	(4)	183	26	16	18	11	4
United Kingdom	303	91	34	205	191	395	19	16	120
Bulgaria	1,341	195	5	(3)	2	301	1,522	2,637	2,367
Palestine and Syria	18	153	31	166	312	622	994	1,357	1,453
Netherlands	9	14	20	739	391	51	37	9	0
Other countries	686	229	637	57	250	106	550	805	1,827
Total	21,058	47,388	39,120	38,638	43,538	47,035	44,827	52,783	49,920
Stems, scraps, and trimmings:									
Cuba	2,049	1,889	2,528	2,876	3,423	2,465	2,836	3,019	3,284
United Kingdom	1	(3)	1,421	1,742	1,767	1,818	1,628	1,532	1,145
Philippine Islands	1,145	2,119	3,252	2,169	2,370	3,423	5,395	5,093	11,596
Puerto Rico	3,500	6,180	5,213	3,329	4,541	4,616	4,323	7,678	4,536
Other countries	67	41	472	167	387	794	1,549	1,819	1,332
Total	6,762	10,229	12,886	10,283	12,488	13,116	15,731	19,141	21,893

[1] Imports for consumption, beginning 1933.
[2] Preliminary.
[3] Less than 500 pounds.
[4] Not available; if any, included in Other countries.

Bureau of Agricultural Economics. Compiled from official records of the Bureau of Foreign and Domestic Commerce.

Cigar tobacco brought into this country is classified for customs purposes as "leaf suitable for cigar wrappers," and "other cigar leaf." As will be noted from table 38, practically all the wrapper tobacco is imported from the Netherlands, being the product of the Dutch possessions, Sumatra and Java. Other cigar leaf is primarily of filler types, though it contains some tobacco of wrapper quality.

Imports of tobacco are shown in tables 38 and 39. It is important to note that in these tables the tobacco is credited to the country from which the shipments were made, and that some of the tobacco so credited was produced elsewhere. For example, the tobacco shown as imported from the Netherlands was produced in the Netherlands Indies—Sumatra and Java. That credited to Germany and Italy was produced in southeastern Europe and Asia Minor. Tobacco is recorded as imported only when withdrawn from customs bonded warehouses and duty-paid. To illustrate, table 38 shows 18,982,000 pounds of cigarette leaf imported from Greece in 1938. This means that during 1938 that quantity of tobacco from Greece was duty-paid and withdrawn from United States customs bonded warehouses. The actual shipments from Greece during that year may have been either greater or less than the quantity withdrawn.

Customs bonded warehouses of the class referred to are privately owned buildings for the storage of imported merchandise that has been released from customs custody before payment of duty. The owners or operators of customs bonded warehouses are under bond to insure the Government against loss or expense in connection with the goods stored. Goods may be withdrawn from such storage for consumption by payment of the duties and accrued charges thereon. Tobacco coming into this country from any foreign country immediately enters into the custody of the Bureau of Customs. From there, if payment of duty is deferred, it is transferred to a customs bonded warehouse where it is under the custody of a customs employee known as a storekeeper. The customs bonded warehouse may be located at the point of entry or at an interior point. It may be a building or part of a building of a manufacturer to whom the tobacco was consigned.

The tendency is to withdraw the tobacco only as needed rather than to incur interest charges on the money necessary to pay the duty on tobacco not immediately required for manufacturing. Statistics on imports of tobacco therefore merely tend to reflect the rate of annual consumption. They are not, however, an accurate measure for the reason that if a manufacturer finds it cheaper or otherwise more advantageous to pay the duty at once, he may withdraw in excess of his needs for the current year. Also, if the importer is a dealer instead of a manufacturer, he may take possession of the tobacco for trading purposes long before it passes into the hands of manufacturers and into consumption.

Table 40 shows reexports of tobacco and tobacco products, representing tobacco held or manufactured in customs bonded warehouses, but which reentered foreign trade instead of domestic consumption, and therefore escaped payment of duty. The quantities of tobacco represented by reexports are not included in imports and therefore are not deductible therefrom.

TABLE 39.—*Imports of tobacco products by countries, into the United States, including shipments from noncontiguous territories, 1923–39* [1]

Product and country	Year beginning July								
	1923	Average 1923–28	Average 1929–33	1934	1935	1936	1937	1938	1939 [2]
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Cigars and cheroots:									
Cuba	413	422	166	48	64	47	42	37	49
Philippine Islands	3,411	2,810	2,094	3,966	3,767	3,377	3,546	3,336	3,946
Puerto Rico [3]	3,155	3,112	2,027	1,102	959	906	216	25	24
Other countries	10	5	4	1	(4)	(4)	(4)	1	1
Total	6,989	6,349	4,291	5,117	4,790	4,330	3,804	3,399	4,020
Cigarettes:									
Philippine Islands	6	23	10	5	66	4	2	3	2
Puerto Rico [5]	9	13	19	8	8	11	13	13	10
Other countries	(6)	(6)	(6)	3	3	3	3	5	5
Total	15	36	29	16	77	18	18	21	17
All other tobacco products: [7]									
Hong Kong	173	132	91	55	60	44	30	16	10
United Kingdom	72	94	35	29	43	49	40	56	58
Italy	51	30	25	24	32	21	25	19	15
Canada	21	30	5	3	3	4	3	3	2
China	2	4	2	4	5	5	18	48	31
Puerto Rico	(8)	(8)	(9) 2	2	2	6	2	2	2
Other countries	16	24	13	2	3	3	5	2	5
Total	335	314	173	119	148	132	123	146	123

[1] Imports for consumption, beginning 1933.
[2] Preliminary.
[3] Conversion to pounds made on basis of 18 pounds per 1,000 cigars.
[4] Less than 500 pounds.
[5] Conversion to pounds made on basis of 2.25 pounds per 1,000 cigarettes.
[6] Not reported separately; if any, included in All other tobacco products.
[7] Includes snuff and snuff flour; stems cut, ground, or pulverized and manufactures of tobacco not specially provided for.
[8] Prior to 1930 not reported separately.
[9] 4-year average.

Bureau of Agricultural Economics. Compiled from Monthly Summary of Foreign Commerce of the United States and official records of the Bureau of Foreign and Domestic Commerce.

In another class of customs bonded warehouses the imported tobacco may be manufactured into the finished product, which may then be withdrawn for export without the payment of duty, or for domestic consumption upon payment of both duty and internal revenue taxes.

TABLE 40.—*Reexports of tobacco from the United States, 1919–39*

Year	Leaf		Manufactured		
	Cigar wrapper	Other	Cigarettes	Cigars and cheroots	Other
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
1919	5,095,487	24,058,413	11,132	9,425	13,304
Average 1920–29	614,890	3,992,790	1,790	2,926	94,271
1930	809,097	1,501,507	0	3,895	15,702
1931	228,460	343,306	2,964	571	15,136
1932	436,673	311,942	15,816		
1933	233,909	636,847	5,315		
1934	201,184	438,357	6,136		
1935	275,451	330,526	3,264		
1936	266,783	624,311	11,772		
1937	498,039	699,069	16,745		
1938	172,031	456,592	16,752		
1939	221,831	423,224	11,941		

Compiled from FOREIGN COMMERCE AND NAVIGATION OF THE UNITED STATES.

REVENUE FROM TOBACCO

Tobacco, almost from its introduction into Europe, has been a favorite object for taxation. So far as is known all countries of the world derive revenue from it, either in the form of an excise laid upon the manufactured products, as in the United States; duties laid upon importation of the unmanufactured tobacco, as in the United Kingdom; or in the form of profits derived from the operation of State tobacco monopolies, as in France, Japan, and many other countries (*28*).

In the United States the internal revenue taxes on manufactured tobacco products are not only one of the major sources of Federal revenue, but nearly half the States and several cities impose sales taxes on some or all tobacco products.

Table 41 shows the taxes collected by the United States Government on specified products for 5-year intervals from 1915 to 1930 and annually from 1931 to 1940.

It is a striking fact that the taxes collected from the sale of tobacco products, manufactured from about one-half of the tobacco produced in this country plus some imported tobacco, greatly exceed the gross receipts by American tobacco growers from the sale of their entire crop.

Table 42 shows tobacco taxes collected by certain States for the fiscal years 1935 to 1941.

It cannot be doubted that this multiplication of taxes—Federal, State, and city—has the effect of restricting in some degree the sale of tobacco products, and to a corresponding degree curtailing the possible income to tobacco growers.

TABLE 41.—*Internal Revenue receipts from tobacco taxes in the United States, specified years*

Year ended June 30	Cigars		Cigarettes		Chewing and smoking	Snuff	Cigarette papers and tubes	Miscellaneous collections	Total
	Large	Small	Large	Small					
	1,000 dollars	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*	*1,000 dollars*
1915	21, 174	729	56	20, 926	32, 198	2, 387	----------	2, 487	79, 957
1920	55, 424	992	232	151, 262	74, 664	6, 949	1, 542	4, 744	295, 809
1925	43, 347	731	109	225, 033	66, 922	6, 754	1, 189	1, 162	345, 247
1930	21, 141	302	65	359, 816	60, 098	7, 542	1, 324	51	450, 339
1931	18, 025	271	46	358, 915	58, 377	7, 190	1, 442	10	444, 276
1932	14, 208	227	32	317, 533	58, 030	6, 846	1, 700	3	398, 579
1933	11, 305	174	21	328, 419	55, 450	6, 405	958	7	402, 739
1934	11, 633	173	638	349, 662	55, 299	6, 788	973	3	425, 169
1935	11, 693	144	17	385, 460	54, 372	6, 512	976	5	459, 179
1936	12, 228	133	19	425, 486	55, 413	6, 603	1, 282	2	501, 166
1937	13, 247	145	19	476, 027	55, 038	6, 660	1, 116	2	552, 254
1938	12, 751	131	21	493, 433	53, 982	6, 679	1, 183	2	568, 182
1939	12, 793	120	19	504, 037	54, 757	6, 932	1, 494	7	580, 159
1940	12, 898	98	17	533, 042	54, 384	6, 798	1, 279	2	608, 518
1941	13, 401	114	12	[1] 621, 279	54, 928	6, 900	1, 431	12	698, 077

[1] Includes $4, 534, 000 cigarette tax imposed July 1, 1940.

Compiled from reports of the Commissioner of Internal Revenue.

TABLE 42.—*State receipts from taxes on tobacco products in the United States, 1936–41*

State	1936	1937	1938	1939	1940	1941
	Dollars	*Dollars*	*Dollars*	*Dollars*	*Dollars*	*Dollars*
Alabama [1]	2,755,210	3,055,384	2,973,466	3,136,290	3,351,988	
Arizona	497,686	576,136	562,384	697,110	757,944	
Arkansas	1,248,427	1,420,227	1,359,238	1,563,057	1,564,731	
Connecticut [2]	2,074,495	3,041,522	1,688,706	2,571,854	3,018,859	
Georgia	1,512,253	2,305,417	[2] 2,420,292	[2] 2,501,892	[2] 2,826,122	
Iowa	1,580,874	1,675,603	1,740,109	1,958,405	2,095,747	
Kansas [2]	914,848	1,071,924	1,139,149	1,127,384	1,288,223	1,285,738
Kentucky	1,107,391	1,559,356	1,509,333	1,620,227	1,794,732	
Louisiana	3,984,782	4,379,254	4,644,186	4,380,202	4,965,264	
Massachusetts				[3] 1,164,888	[4] 7,316,992	
Mississippi	1,884,509	2,205,221	2,329,807	2,825,947	2,936,119	
New Hampshire [2]					1,060,000	987,729
New York [2]					21,529,779	23,845,919
North Dakota [2]	382,844	385,453	454,632	498,812	510,345	527,595
Ohio	6,655,223	7,434,632	7,034,240	7,831,762	8,705,912	
Oklahoma [2]	1,850,832	1,994,194	[5] 2,150,275	[5] 2,038,609	[5] 2,051,922	
Pennsylvania	(6)	(6)	(6)	11,557,263	(6)	
Rhode Island [7]					1,581,960	1,207,796
South Carolina	1,927,408	2,134,564	2,285,470	2,487,865	2,650,395	
South Dakota	486,365	513,743	573,627	585,977	616,642	
Tennessee	2,546,734	[2] 2,849,679	[2] 2,747,536	[2] 2,528,075	[2] 2,893,107	
Texas [8]	5,652,614	6,423,972	6,805,487	6,891,249	7,205,524	
Utah [2]	263,352	306,074	324,993	[5] 338,897	359,122	349,117
Vermont		207,005	334,649	438,917	480,485	
Washington [9]	965,376	1,051,797	1,100,881	1,104,326	2,126,474	
Wisconsin [2]					2,536,313	3,543,511

[1] Year ended Sept. 30.
[2] Year ended June 30.
[3] 3 months ended Nov. 30.
[4] Year ended Nov. 30.
[5] Jan. 1 to Dec. 31.
[6] Data not available.
[7] Year ended May 31.
[8] Year ended Aug. 31.
[9] Year ended Apr. 30.

Compiled from reports and records of State departments of revenue or tax commissions.

SUMMARY

Production of tobacco in the United States is localized according to types. This localization results from the fact that soil requirements for different types and classes of tobacco vary. The differentiation of tobacco into classes and types results in part from variations in methods of culture and of curing, and, in the case of cigar tobacco, from the primary purposes for which the tobacco is grown.

There are six important classes of tobacco, as follows:

Flue-cured, of which there are four types. This tobacco is important in the manufacture of cigarettes and in the export trade. Limited quantities are used for other purposes, particularly chewing and pipe tobacco.

Fire-cured, of which there are four types. Formerly the most important export type, this tobacco is now much less important in both domestic and foreign trade. It is used extensively in the manufacture of snuff, and fairly large quantities are still exported to foreign countries.

Air-cured, of which there are two light air-cured types and three dark air-cured types. The light air-cured types are used extensively in the manufacture of cigarettes and pipe and chewing tobacco. Only small quantities are exported. The dark air-cured types are not suitable for cigarettes, but are used mostly in chewing forms.

Cigar tobacco, divided according to primary usage into the classes of filler, binder, and wrapper types.

Several marketing systems for tobacco prevail in the United States, but the auction marketing system applies to approximately 90 percent of the tobacco produced. Under the auction system tobacco is displayed on floors of large warehouses with ample skylights. The tobacco is placed in baskets or broad trays that contain from a few pounds up to several hundred pounds. The rate of sale varies from 250 lots per hour in the fire-cured districts to 500 or more lots per hour in the flue-cured and Burley districts. Cigar tobacco and a small percentage of the fire-cured tobacco are sold at the farm to buyers who look over the tobacco and purchase it at stipulated prices subject to further inspection on delivery. Delivery is made to the factories or packing houses of the purchasers. Some tobacco is sold through cooperative marketing associations, of which there are several. Most of these employ the facilities of the auction marketing system. Usually they are financed from Government sources. The tobacco is offered for public sale on the auction floors and inspected by official graders of the Agricultural Marketing Administration of the United States Department of Agriculture. Lots that fail to sell at prescribed minimum prices according to grade are delivered to the association for packing and later private sale.

Practically all tobacco goes through a process of aging that covers a period of from 2 to 3 years. This aging process is characterized by seasonal fermentations or sweats that effect chemical changes in the tobacco, during which some loss of weight occurs. The chemical changes represent an extension of the curing process that takes place between the time of harvesting and the sale of the tobacco by the grower. During this process much of the nicotine is eliminated. This, together with other changes, mellows the tobacco and renders it suitable for use.

The ordinary domestic outlets for tobacco are in the manufacture of cigars, cigarettes, chewing tobacco, snuff, and pipe tobacco. A small quantity of leaf tobacco, together with large quantities of stems, scraps, cuttings, and clippings, is used in tobacco byproducts, such as nicotine sulfate, tobacco extract, and filler in the preparation of mixed fertilizers. The cigarette industry represents the most important domestic outlet, more than half of the tobacco used in domestic consumption being in the form of cigarettes.

From 35 to 45 percent of the annual production of American tobacco is exported. The most important class of tobacco exported is flue-cured. The exports of fire-cured tobacco, which in earlier years were very important, are now second in importance but represent a comparatively small percentage of the total. Shifts in the class of tobacco exported, like those in domestic consumption, have been caused by changes in forms of tobacco consumption.

There are four measures of tobacco consumption, each measure having its own particular uses, characteristics, and limitations. They are:

Supply and Disappearance.—This measure is presented by official statistics of the Department of Agriculture showing the production and stocks of individual types or classes of tobacco with a supplemental figure showing the annual disappearance from that supply into consumption or export channels.

Quantities of tobacco used in Manufacturing.—These statistics are collected and published by the Bureau of Internal Revenue and show the quantities of tobacco used in the manufacture separately of cigars and cigarettes, and of chewing and pipe tobacco and snuff combined. The statistics include all tobacco so used whether of domestic or foreign origin, but are not separated as to types of tobacco.

Quantities of Tobacco Products Manufactured.—These are statistics published by the Bureau of Internal Revenue and relate to the number of units of cigars and cigarettes manufactured annually and the number of pounds of the different items of chewing and smoking tobacco, and snuff.

Consumption per Capita.—These statistics are computed on the basis of the number of persons in the United States as reported by the Bureau of the Census, and the quantity of tobacco consumed in various forms as reported by the Bureau of Internal Revenue.

The methods by which tobacco is consumed, both domestically and abroad, have a determining effect upon the geography of tobacco production. Thus the rise of cigarette consumption to a position of dominance in the tobacco industry has effected a great increase in the production of flue-cured tobacco for domestic use and for export, which has been accompanied by a corresponding decrease in the production of types not suitable for cigarette manufacturing, but used in products that have declined in popular favor. Therefore the areas suitable for production of flue-cured tobacco—from Virginia to Florida—have increased in importance. Conversely, some other areas, such as those devoted to fire-cured, dark air-cured, and cigar tobacco have decreased in importance.

Imports of tobacco into the United States are confined to oriental types produced in southeastern Europe and the Near East for use in the manufacture of cigarettes and to cigar tobacco from Cuba and the Netherlands Indies. Cigarette tobaccos imported are considered to be complementary to the American types in achieving cigarette blends. The cigar types imported are in some degree complementary to American types, but to some extent are competitive with them.

The revenue from tobacco is one of the most important sources of internal revenue to the United States Government. The annual receipts from taxes on tobacco products are greatly in excess of the gross return to the growers of the tobacco.

APPENDIX

Following is a list of loose-leaf tobacco auction markets which were in operation during the 1940–41 season, arranged by types and States. Markets followed by "D" had been designated up to December 1, 1941, for inspection service under the Tobacco Inspection Act. The number of sales floors, number of sets of buyers, and the quantity of tobacco sold during the season are shown for each market. Pounds shown represent first-hand sales, except as to Burley, for which type the figures include resales. Sales vary in volume from year to year, principally because of variations in the size of the crop. (Table 43.)

It should be noted that the numbers of markets for the different types cannot be added together to arrive at the total number of markets. Four markets—Hopkinsville, Mayfield, Madisonville, and Owensboro, Ky.—sell two types each, and are listed twice. The total number of loose-leaf auction markets is, therefore, 138.

For similar reasons a grand total of sales floors enumerated would be misleading. In Hopkinsville, for example, 16 were in operation during the marketing season shown. Nine sold Burley tobacco exclusively, 5 sold both Burley and fire-cured, and 2 sold only fire-cured. At Mayfield, all 5 sales floors sold fire-cured and 4 out of this number sold One Sucker. At Madisonville, the 3 sales floors sold both fire-cured and Green River. At Owensboro, 6 of the 9 sales floors sold Green River, whereas all of them sold Burley.

Less duplication is to be noted as to sets of buyers. Separate buyers are provided at Hopkinsville for Burley and fire-cured, at Owensboro for Burley and dark air-cured, and possibly at Mayfield for fire-cured and dark air-cured. At Madisonville only one set of buyers is provided for the purchase of the two dark tobacco types.

TABLE 43.—*Loose-leaf tobacco auction markets in operation during the 1940–41 season, by types and States*

TYPES 11-14—FLUE-CURED

Type, market, and State	Sales 1940–41	Floors[1]	Sets of buyers
Type 11 (a)			
North Carolina:	*Pounds*	*Number*	*Number*
Burlington	2, 379, 590	2	1
Madison	2, 318, 742	3	1
Mebane	2, 847, 546	3	1
Mount Airy	3, 660, 711	5	1
Reidsville D	7, 982, 822	4	1
Roxboro	2, 928, 778	4	1
Stoneville	2, 597, 710	3	1
Winston-Salem	41, 718, 762	13	4
Virginia:			
Brookneal	1, 056, 526	2	1
Chase City	2, 964, 394	4	1
Clarksville	1, 486, 774	2	1
Danville D	44, 421, 454	11	4
Kenbridge	2, 788, 392	4	1
Lawrenceville	1, 312, 992	2	1
Martinsville	3, 224, 404	3	1
Petersburg	3, 054, 212	2	1
Rocky Mount	1, 203, 935	2	1
South Boston	16, 690, 193	10	2
Total		79	25
Type 11 (b)			
North Carolina:			
Aberdeen	3, 183, 302	2	1
Carthage	1, 937, 854	2	1
Durham	37, 088, 287	11	3
Fuquay-Varina D	9, 211, 950	5	1
Henderson	18, 893, 992	10	2
Louisburg	3, 427, 699	3	1
Oxford D	17, 748, 739	10	2
Sanford	4, 267, 584	5	1
Warrenton	4, 201, 390	3	1
Virginia:			
South Hill D	7, 058, 344	6	1
Total		57	14
Type 12			
North Carolina:			
Ahoskie	3, 220, 240	4	1
Farmville D	14, 345, 552	5	2
Goldsboro D	7, 173, 352	4	1
Greenville D	44, 643, 840	10	5
Kinston	38, 685, 752	9	4
Robersonville D	7, 416, 930	3	1
Rocky Mount	40, 269, 924	13	4
Smithfield	8, 781, 480	5	1
Tarboro D	4, 690, 544	3	1
Wallace	4, 836, 384	2	1
Washington	3, 195, 892	3	1
Type 12—Continued			
North Carolina—Con.	*Pounds*	*Number*	*Number*
Wendell D	4, 247, 524	4	1
Williamston D	4, 605, 332	4	1
Wilson	58, 768, 026	11	5
Total		80	29
Type 13			
North Carolina ("border" markets):			
Chadbourn	3, 200, 544	3	1
Clarkton	2, 583, 366	4	1
Fair Bluff	3, 329, 723	4	1
Fairmont	27, 429, 298	8	4
Lumberton	18, 026, 249	9	3
Tabor City	3, 008, 328	3	1
Whiteville	15, 213, 204	6	3
South Carolina:			
Conway	2, 774, 614	3	1
Darlington D	3, 681, 062	3	1
Dillon D	2, 369, 706	3	1
Kingstree	3, 599, 151	3	1
Lake City D	15, 850, 884	5	3
Loris D	3, 549, 346	4	1
Mullins	29, 596, 703	11	4
Pamplico D	3, 934, 260	4	1
Timmonsville D	9, 447, 854	5	2
Total		78	29
Type 14			
Florida:			
Lake City	2, 682, 696	3	1
Live Oak D	5, 221, 004	7	2
Georgia:			
Adel D	3, 689, 474	4	1
Baxley	2, 979, 084	4	1
Blackshear	6, 243, 686	5	2
Douglas D	8, 474, 255	6	2
Hahira D	2, 797, 372	3	1
Hazlehurst	2, 793, 200	3	1
Metter D	3, 236, 064	2	1
Moultrie	7, 450, 086	10	2
Nashville D	7, 302, 561	4	2
Pelham	3, 120, 836	3	1
Statesboro D	4, 567, 924	4	1
Tifton	9, 358, 124	6	2
Valdosta D	6, 822, 004	6	2
Vidalia	6, 989, 246	6	2
Waycross	3, 414, 360	3	1
Total		79	25

See footnotes at end of table.

TABLE 43.—*Loose-leaf tobacco auction markets in operation during the 1940–41 season, by types and States*—Continued

TYPES 21-24—FIRE-CURED

Type, market, and State	Sales 1940-41	Floors[1]	Sets of buyers
Type 21			
Virginia:	*Pounds*	*Number*	*Number*
Bedford D	1, 376, 804	2	1
Blackstone D	4, 568, 566	4	1
Farmville D	6, 523, 050	3	1
Lynchburg D	6, 138, 207	4	2
Total		13	5
Type 22			
Kentucky: Hopkinsville D	14, 334, 234	7	2
Tennessee:			
Clarksville D	22, 981, 282	10	2
Springfield D	19, 305, 365	11	2
Total		28	6
Type 23			
Kentucky:	*Pounds*	*Number*	*Number*
Mayfield D	10, 007, 780	5	1
Murray D	7, 345, 820	3	1
Paducah D	1, 917, 845	2	1
Tennessee: Paris D	1, 027, 272	1	1
Total		11	4
Type 24			
Kentucky: Madisonville D	371, 568	3	1

TYPES 31 AND 32—LIGHT AIR-CURED

Type, market, and State	Sales 1940-41	Floors[1]	Sets of buyers
Type 31—Burley			
Indiana:			
Madison D	5, 250, 030	4	1
New Albany D	812, 498	1	[2] 2
Kentucky:			
Bloomfield D	5, 053, 322	3	1
Bowling Green D	7, 477, 720	5	1
Camp Taylor D	2, 699, 562	1	[2] 2
Carrollton D	14, 412, 162	7	2
Covington D	2, 887, 674	1	1
Cynthiana D	13, 103, 408	8	1
Danville D	11, 583, 468	7	1
Glasgow D	8, 764, 526	7	1
Greensburg D	4, 557, 314	4	1
Harrodsburg D	8, 052, 849	7	1
Hopkinsville D	10, 335, 965	14	1
Horse Cave D	9, 273, 565	6	1
Lebanon D	8, 519, 460	4	1
Lexington D	87, 304, 818	25	5
Louisville D	8, 658, 350	2	[2] 2
Maysville D	28, 658, 814	23	3
Mt. Sterling D	6, 051, 864	2	1
Owensboro D	9, 370, 526	9	1
Paris D	8, 878, 584	9	1
Richmond D	9, 851, 814	7	1
Shelbyville D	23, 367, 922	5	2
Springfield D	8, 156, 370	5	1
Missouri: Weston D	4, 323, 946	2	1
North Carolina:			
Asheville D	3, 288, 042	3	1
Boone D	1, 193, 682	2	1
Ohio: Ripley D	4, 955, 168	4	1
Type 31—Burley— Continued			
Tennessee:			
Carthage D	3, 784, 894	5	1
Columbia D	1, 384, 094	1	[3] 1
Fayetteville D	1, 770, 019	2	1
Franklin D	3, 079, 536	3	1
Gallatin D	4, 434, 113	8	1
Greeneville D	14, 459, 214	11	2
Hartsville D	5, 333, 693	4	1
Johnson City D	6, 779, 686	7	1
Knoxville D	8, 403, 894	11	1
Morristown D	7, 067, 692	6	1
Mt. Pleasant D	1, 620, 170	2	[3] 1
New Tazewell D	6, 089, 946	5	1
Rogersville D	5, 140, 596	6	1
Virginia: Abingdon D	9, 430, 736	5	2
West Virginia: Huntington D	4, 331, 847	3	1
Total		256	51
Type 32—Maryland			
Maryland: [4]			
Hughesville	3, 700, 980	2	1
La Plata	2, 558, 640	1	1
Upper Marlboro	8, 325, 671	2	1
Waldorf	2, 015, 325	1	1
Total		6	4

TYPES 35-37—DARK AIR-CURED

Type, market, and State	Sales 1940-41	Floors[1]	Sets of buyers
Type 35—One Sucker			
Kentucky:			
Franklin D	7, 890, 840	2	[5] 1
Mayfield D	1, 158, 749	4	[6] 1
Russellville D	9, 701, 145	5	[5] 1
Tennessee: Westmoreland D	1, 800, 970	1	[6] 1
Total		12	2
Type 36—Green River			
Kentucky:			
Henderson D	4, 893, 714	2	1
Madisonville D	2, 140, 675	3	1
Owensboro D	10, 362, 982	6	1
Total		11	3
Type 37—Virginia sun-cured			
Virginia: Richmond	3, 133, 952	1	1

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[1] The number of sales floors represents, as a rule, the number of warehouses. In a few isolated instances, however, a single warehouse is operated as more than one sales floor; in one or two instances, a combination of several warehouses is operated as one sales floor.

[2] Same buyers used for Camp Taylor, Ky., Louisville, Ky., and New Albany, Ind., markets.

[3] Same buyers used for both Columbia and Mt. Pleasant, Tenn., markets.

[4] Maryland tobacco sales are 1939 crop, sold during 1940.

[5] Same buyers used for both Franklin and Russellville, Ky. Sales held at Franklin on Monday, Wednesday, and Friday, and at Russellville on Tuesday, Thursday, and Saturday.

[6] Same buyers used for both Mayfield, Ky., and Westmoreland, Tenn. Sales held at Mayfield on Wednesday and Saturday, and at Westmoreland on Tuesday and Friday.

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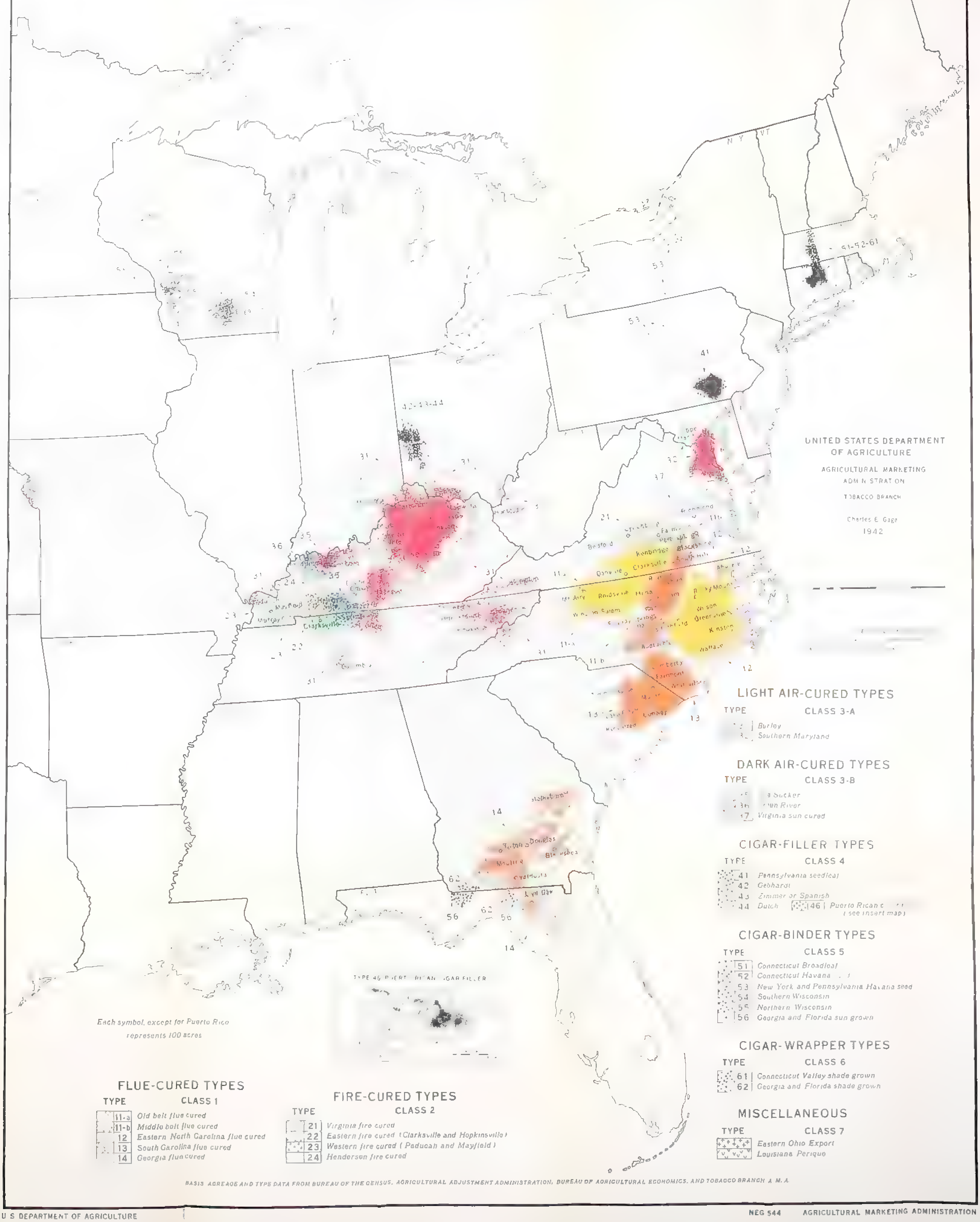

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Charles E. Gage
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